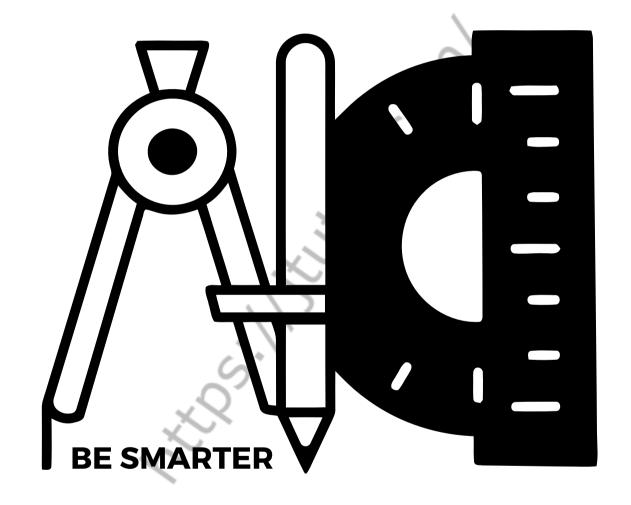
J-TUTES



YEAR 4 WORKBOOK

TERM 2 SYLLABUS

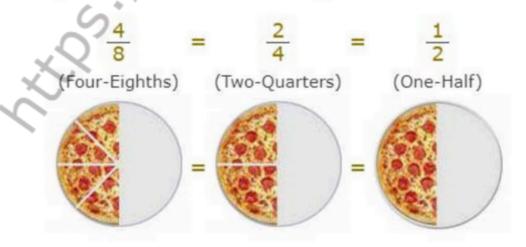
Simplifying Fractions

To simplify a fraction, divide the top and bottom by the **highest number** that can divide into both numbers exactly.

$$\frac{2}{10}^{1}$$

Simplifying (or reducing) fractions means to make the fraction as simple as possible.

Why say four-eighths $(\frac{4}{8})$ when we really mean half $(\frac{1}{2})$?



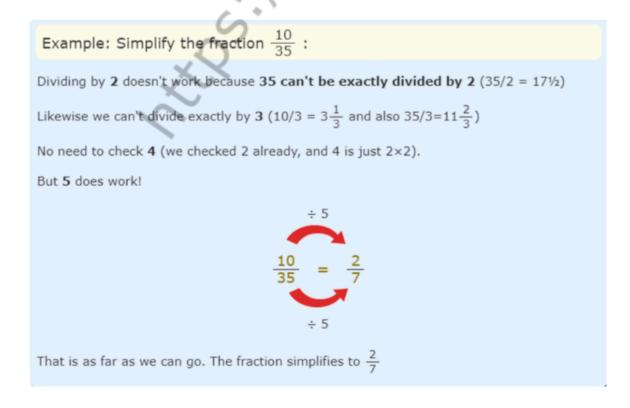
How do I Simplify a Fraction?

There are two ways to simplify a fraction:

Method 1

Try to **exactly divide** (only whole number answers) both the top and bottom of the fraction by 2, 3, 5, 7, ... etc, until we can't go any further.

Example: Simplify the fraction
$$\frac{24}{108}$$
: $\begin{vmatrix} \vdots & \vdots & \vdots & \vdots & \vdots & \vdots \\ \frac{24}{108} & = & \frac{12}{54} & = & \frac{6}{27} & = & \frac{2}{9} \\ \vdots & \vdots & \vdots & \vdots & \vdots & \vdots \\ \frac{24}{108} & \vdots & \vdots & \vdots & \vdots & \vdots \\ \frac{24}{108} & \vdots & \vdots & \vdots & \vdots & \vdots \\ \frac{24}{108} & \vdots & \vdots & \vdots & \vdots & \vdots \\ \frac{24}{108} & \vdots & \vdots & \vdots & \vdots & \vdots \\ \frac{24}{108} & \vdots & \vdots & \vdots & \vdots & \vdots \\ \frac{24}{108} & \vdots & \vdots & \vdots & \vdots & \vdots \\ \frac{24}{108} & \vdots & \vdots & \vdots & \vdots & \vdots \\ \frac{24}{108} & \vdots & \vdots & \vdots & \vdots & \vdots \\ \frac{24}{108} & \vdots & \vdots & \vdots & \vdots & \vdots \\ \frac{24}{108} & \vdots & \vdots & \vdots & \vdots \\ \frac{24}{108} & \vdots & \vdots & \vdots & \vdots \\ \frac{24}{108} & \vdots & \vdots & \vdots & \vdots \\ \frac{24}{108} & \vdots & \vdots & \vdots & \vdots \\ \frac{24}{108} & \vdots & \vdots & \vdots & \vdots \\ \frac{24}{108} & \vdots & \vdots & \vdots & \vdots \\ \frac{24}{108} &$



How do I Simplify a Fraction?

Notice that after checking 2 we didn't need to check 4 (4 is 2x2)?

We also don't need to check 6 when we have checked 2 and 3 (6 is 2x3).

In fact, when checking from smallest to largest we use **prime numbers**:

Method 2

Divide both the top and bottom of the fraction by the **Greatest Common Factor** (you have to work it out first!).

Example: Simplify the fraction $\frac{8}{12}$:

The largest number that goes exactly into both 8 and 12 is 4, so the Greatest Common Factor is 4.

Divide both top and bottom by 4: $\frac{8}{12} = \frac{2}{3}$ $\div 4$ That is as far as we can go. The fraction simplifies to $\frac{2}{3}$

Simplify the Fractions

$\frac{4}{6}$	=	$\frac{2}{3}$	$\frac{2}{4}$	=	$\frac{1}{2}$

$$\frac{12}{15} = \frac{\frac{4}{5}}{\frac{5}{8}} = \frac{\frac{3}{4}}{\frac{4}{5}}$$

$$\frac{6}{10} = \frac{\frac{3}{5}}{5} = \frac{\frac{3}{5}}{5}$$

$$\frac{3}{9} = \frac{\frac{1}{3}}{12} = \frac{\frac{3}{4}}{12}$$

$$\frac{4}{12} = \boxed{\frac{1}{3}} \boxed{\frac{4}{10}} = \boxed{\frac{2}{5}}$$

$$\frac{3}{12} = \begin{bmatrix} \frac{1}{4} \\ \frac{1}{5} \end{bmatrix} = \begin{bmatrix} \frac{2}{5} \\ \frac{2}{5} \end{bmatrix}$$

$$\frac{2}{16} = \frac{\frac{1}{8}}{12} = \frac{\frac{5}{6}}{}$$

$$\frac{6}{14} = \boxed{\frac{3}{7}} \boxed{\frac{5}{10}} = \boxed{\frac{1}{2}}$$

Simplify the Fractions

$\frac{20}{24}$	=	$\frac{20}{45}$	=	
$\frac{21}{56}$	=	$\frac{18}{63}$		
$\frac{18}{90}$	=	$\frac{42}{48}$	• =	
8 64	=	$\frac{16}{28}$	=	
$\frac{30}{42}$	=	$\frac{24}{32}$	=	
$\frac{36}{72}$	= ~	9 54	=	
15 40	=	40 90	=	
24 28	=	$\frac{6}{36}$	=	

Simplify the Fractions

128 144	=		$\frac{168}{364}$	=	
$\frac{96}{128}$	=		$\frac{275}{425}$	Ō.	
$\frac{144}{324}$	=		$\frac{240}{576}$	=	
$\frac{224}{308}$	=		$\frac{495}{770}$	=	
192 448	=	6	$\frac{528}{720}$	=	
$\frac{504}{546}$	=		$\frac{672}{816}$	=	
$\frac{224}{504}$	=		175 375	=	
$\frac{420}{750}$	=		$\frac{384}{408}$	=	

Reduce the Fractions to its Lowest Terms

$\frac{10}{5}$	=		14 6	=	
15 9	=		$\frac{12}{10}$, 	
$\frac{15}{6}$	=		15 12	=	
18 12	=		$\frac{20}{16}$	=	
12 4	=	8	$\frac{10}{4}$	=	
9 3	=		$\frac{10}{6}$	=	
<u>12</u> 9	=		8/6	=	
16 14	=		$\frac{6}{4}$	=	

Reduce the Fractions to its Lowest Terms

1)	$\frac{35}{21} =$	2)	$\frac{45}{18} =$	

3)
$$\frac{65}{39} =$$
 4) $\frac{54}{36} =$

$$|7) \quad \frac{88}{66} =$$
 $|8) \quad \frac{46}{30} =$

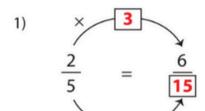
9)
$$\frac{80}{24} =$$
 10) $\frac{72}{60} =$

11)
$$\frac{62}{36} =$$
 12) $\frac{68}{34} =$

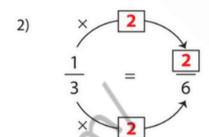
$$13) \quad \frac{40}{28} = \qquad \qquad \boxed{ \qquad } 14) \quad \frac{99}{54} = \qquad \boxed{ }$$

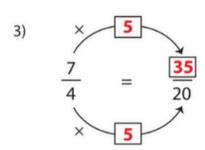
15)
$$\frac{45}{35} =$$
 16) $\frac{70}{42} =$

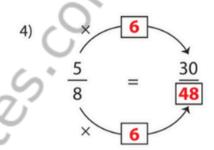
Equivalent Fractions

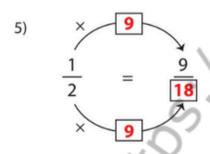


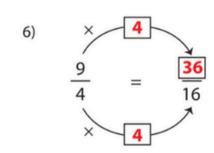
3



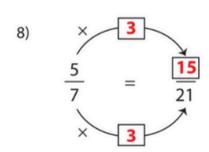




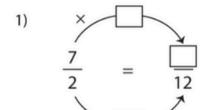


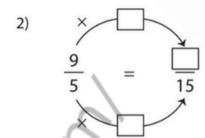


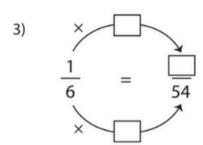
7)
$$\frac{3}{5} = \frac{6}{10}$$

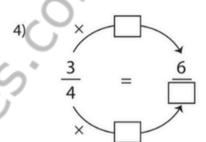


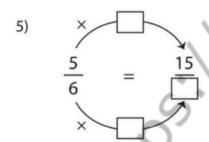
9)
$$\times \frac{7}{4} = \frac{7}{28}$$

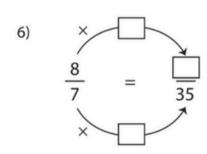


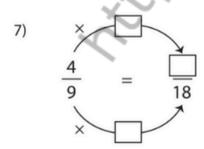


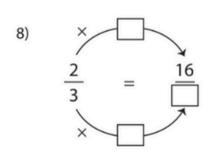


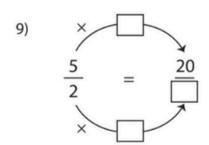


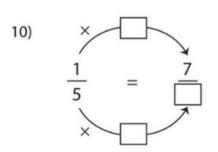






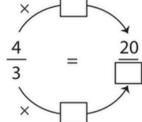


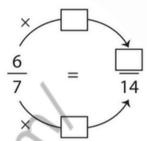




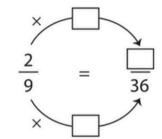
Equivalent Fractions



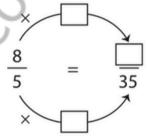




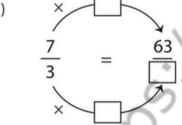
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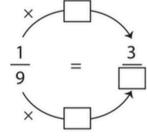
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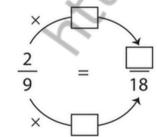
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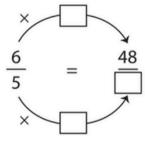
6)



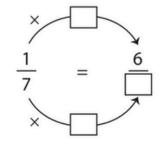
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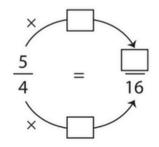
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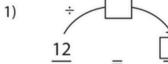
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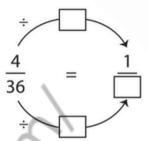
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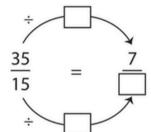


Equivalent Fractions

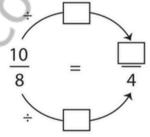


$$\frac{12}{18} = \frac{3}{3}$$

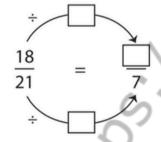




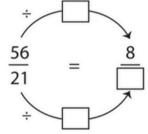
4)



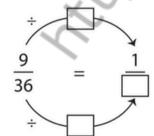
5)



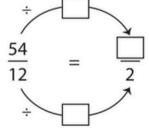
6)



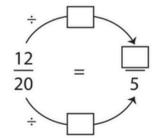
7)



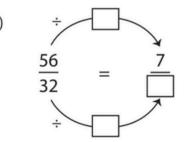
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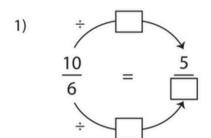


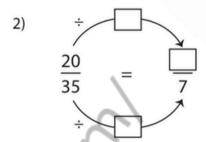
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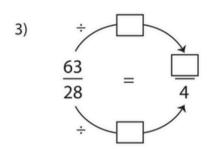


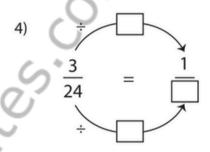
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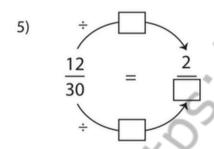


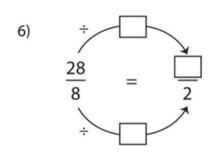


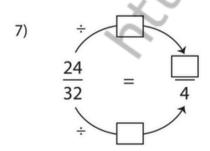


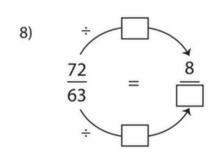




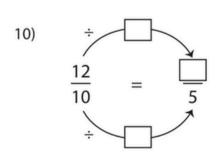


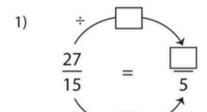


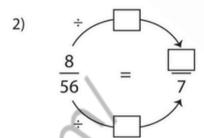




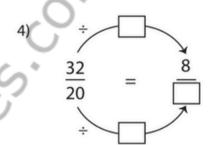
9)
$$\frac{3}{6} = \frac{1}{6}$$

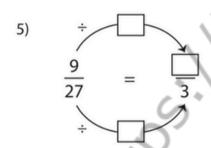


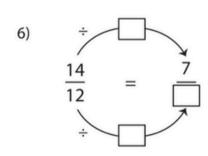




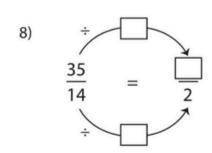
3)
$$\frac{10}{45} = \frac{2}{2}$$



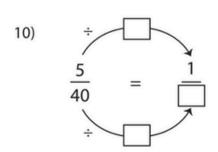


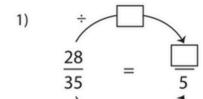


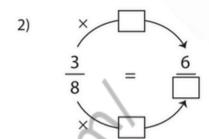
$$\frac{24}{54} = \frac{4}{54}$$



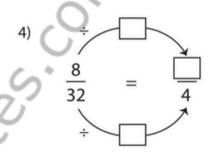
9)
$$\frac{12}{28} = \frac{1}{7}$$

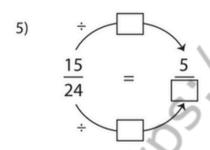


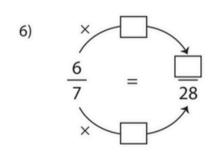


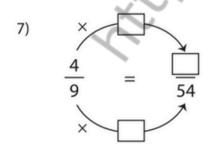


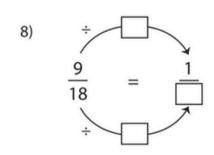
3)
$$\times$$
 $\frac{9}{2}$ = $\frac{45}{2}$



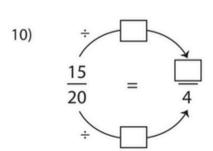








9)
$$\times$$
 $\frac{7}{5}$ = $\frac{28}{5}$



Missing Numbers

$$\frac{3}{4} = \frac{6}{8}$$

2)
$$\frac{5}{3}$$
 = $\frac{20}{12}$

3)
$$\frac{11}{2} = \frac{33}{6}$$

4)
$$\frac{35}{25} = \frac{7}{5}$$

5)
$$\frac{8}{14} = \frac{16}{28}$$

6)
$$\frac{6}{9}$$
 = $\frac{24}{36}$

7)
$$\frac{40}{15} = \frac{8}{3}$$

8)
$$\frac{10}{3} = \frac{30}{9}$$

9)
$$\frac{12}{16} = \frac{6}{8}$$

10)
$$\frac{4}{7} = \frac{16}{28}$$

11)
$$\frac{1}{10} = \frac{5}{50}$$

12)
$$\frac{21}{27} = \frac{7}{9}$$

13)
$$\frac{39}{12} = \frac{13}{4}$$

14)
$$\frac{9}{2} = \frac{45}{10}$$

15)
$$\frac{3}{6} = \frac{12}{24}$$

16)
$$\frac{4}{9} = \frac{8}{18}$$

Missing Numbers

1)
$$\frac{}{4}$$
 = $\frac{36}{16}$

2)
$$\frac{2}{7} = \frac{2}{21}$$

3)
$$\frac{75}{55} = \frac{11}{11}$$

4)
$$\frac{6}{28} = \frac{6}{7}$$

5)
$$\frac{7}{}$$
 = $\frac{14}{26}$

6)
$$\frac{1}{5}$$
 = $\frac{1}{20}$

7)
$$\frac{11}{8}$$
 = $\frac{55}{1}$

8)
$$\frac{14}{2} = \frac{}{6}$$

9)
$$\frac{24}{10} = \frac{5}{5}$$

10)
$$\frac{}{36} = \frac{2}{9}$$

11)
$$\frac{32}{12} = \frac{8}{12}$$

12)
$$\frac{5}{2} = \frac{}{4}$$

13)
$$\frac{}{11} = \frac{35}{55}$$

14)
$$\frac{30}{10} = \frac{10}{30}$$

15)
$$\frac{4}{5}$$
 = $\frac{8}{}$

16)
$$\frac{12}{28} = \frac{}{7}$$

Missing Numbers

1)
$$\frac{21}{36}$$
 = $\frac{1}{12}$

2)
$$\frac{5}{27} = \frac{15}{27}$$

3)
$$\frac{20}{8}$$
 = $\frac{4}{8}$

4)
$$\frac{16}{6} = \frac{}{3}$$

5)
$$\frac{15}{10} = \frac{45}{10}$$

6)
$$\frac{1}{81} = \frac{1}{9}$$

7)
$$\frac{}{48} = \frac{3}{12}$$

8)
$$\frac{56}{32} = \frac{}{8}$$

9)
$$\frac{2}{8} = \frac{4}{8}$$

$$\frac{10}{10} = \frac{16}{20}$$

$$11) \quad \frac{}{9} \quad = \quad \frac{5}{3}$$

12)
$$\frac{11}{3} = \frac{44}{3}$$

13)
$$\frac{27}{6} = \frac{9}{1}$$

14)
$$\frac{}{6} = \frac{40}{30}$$

15)
$$\frac{}{7} = \frac{48}{28}$$

16)
$$\frac{15}{6}$$
 = $\frac{5}{6}$

Missing Numbers

$$=\frac{63}{14}$$

2)
$$\frac{27}{36} = \frac{}{4}$$

3)
$$\frac{16}{11} = \frac{22}{22}$$

4)
$$\frac{7}{30} = \frac{42}{30}$$

5)
$$\frac{20}{3}$$
 = $\frac{5}{3}$

(6)
$$\frac{9}{4} = \frac{32}{32}$$

7)
$$\frac{2}{8} = \frac{20}{8}$$

8)
$$\frac{}{11} = \frac{28}{22}$$

9)
$$\frac{63}{6}$$
 = $\frac{7}{6}$

10)
$$\frac{10}{9}$$
 = $\frac{70}{}$

11)
$$\frac{5}{9} = \frac{27}{27}$$

13)
$$\frac{12}{15}$$
 = $\frac{60}{15}$

$$\frac{14)}{8} = \frac{16}{64}$$

15)
$$\frac{4}{5}$$
 = $\frac{36}{}$

16)
$$\frac{63}{77} = \frac{11}{11}$$

Missing Numbers

1)
$$\frac{1}{4}$$
 = $\frac{10}{1}$

$$\frac{11}{11} = \frac{35}{55}$$

3)
$$\frac{16}{52}$$
 = $\frac{16}{13}$

4)
$$\frac{5}{2}$$
 = $\frac{45}{2}$

5)
$$\frac{8}{3}$$
 = $\frac{56}{3}$

6)
$$\frac{}{36} = \frac{4}{6}$$

7)
$$\frac{70}{12}$$
 = $\frac{10}{12}$

8)
$$\frac{7}{9} = \frac{}{81}$$

9)
$$\frac{4}{8} = \frac{24}{24}$$

10)
$$\frac{3}{10} = \frac{15}{30}$$

11)
$$\frac{}{56} = \frac{11}{8}$$

12)
$$\frac{20}{65}$$
 = $\frac{4}{}$

13)
$$\frac{6}{14} = \frac{42}{1}$$

$$\frac{14}{2} = \frac{18}{4}$$

15)
$$\frac{10}{}$$
 = $\frac{90}{63}$

16)
$$\frac{12}{13} = \frac{26}{26}$$

Missing Numbers

$$=\frac{4}{30}$$

2)
$$\frac{1}{49} = \frac{1}{7}$$

3)
$$\frac{30}{27}$$
 = $\frac{10}{2}$

4)
$$\frac{2}{3} = \frac{18}{3}$$

$$\frac{8}{100} = \frac{72}{36}$$

6)
$$\frac{}{21} = \frac{4}{3}$$

7)
$$\frac{10}{50} = \frac{10}{10}$$

8)
$$\frac{1}{64}$$
 = $\frac{8}{64}$

9)
$$\frac{3}{40}$$
 = $\frac{24}{40}$

10)
$$\frac{9}{13} = \frac{54}{}$$

11)
$$\frac{12}{7} = \frac{1}{21}$$

12)
$$\frac{40}{11} = \frac{5}{11}$$

13)
$$\frac{6}{}$$
 = $\frac{48}{72}$

14)
$$\frac{2}{5} = \frac{16}{1}$$

15)
$$\frac{32}{12} = \frac{8}{12}$$

16)
$$\frac{}{3} = \frac{72}{24}$$

Comparing Fractions

Sometimes we need to compare two fractions to discover which is larger or smaller.

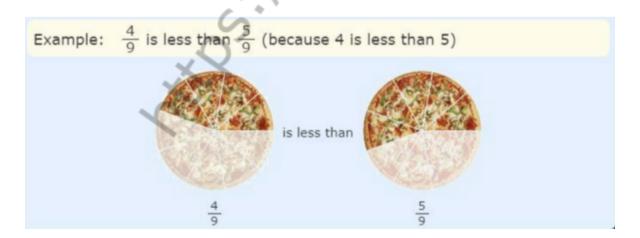
There are two main ways to compare fractions: using **decimals** or using the **same denominator**.

The Same Denominator Method

The **denominator** is the bottom number in a fraction. It shows how many equal parts the item is divided into



When two fractions have the **same denominator** they are easy to compare:



But when the denominators are not the same we need to **make** them the same (using <u>Equivalent Fractions</u>).

Example: Which is larger: $\frac{3}{8}$ or $\frac{5}{12}$? Look at this: • When we multiply 8 x 3 we get 24, • and when we multiply 12 × 2 we also get 24, so let's try that (important: what we do to the bottom we must also do to the top): We can now see that $\frac{9}{24}$ is smaller than $\frac{10}{24}$ (because 9 is smaller than 10). so $\frac{5}{12}$ is the larger fraction. is less than

Ordering Fractions

If the denominator is the same, look at the numerators, and put the fractions in order.

If the denominator is different, we need to convert our fractions to equivalent fractions of the same denominator and then compare them to put in order.

Example 1

Order these fractions from least to greatest: $\frac{1}{10}$, $\frac{12}{10}$, $\frac{7}{10}$, $\frac{9}{10}$

Here the denominator of all the fractions is same so we look at the numerators.

1 is the smallest number, followed by 7, 9, and 12.

1 < 7 < 9 < 12

Arrange the fractions from least to greatest:

$$\frac{1}{10} < \frac{7}{10} < \frac{9}{10} < \frac{12}{10}$$

Ordering Fractions

Example 2

Order these fractions from least to greatest: $\frac{3}{4}$, $\frac{5}{6}$, $\frac{1}{2}$, $\frac{2}{3}$

These fractions have different denominators; so we use Least Common Denominator (LCD) to write these fractions as equivalent fractions with same denominators and then compare.

The least common denominator of $\frac{3}{4}$, $\frac{5}{6}$, $\frac{1}{2}$, $\frac{2}{3}$ is **12**.

$$\frac{3\times3}{4\times3} = \frac{9}{12}$$

$$\frac{5\times2}{6\times2} = \frac{10}{12}$$

$$\frac{1\times 6}{2\times 6} = \frac{6}{12}$$

$$\frac{2\times 4}{3\times 4} = \frac{8}{12}$$

We know,

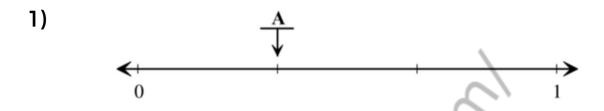
So,

$$\frac{6}{12} < \frac{8}{12} < \frac{9}{12} < \frac{10}{12}$$

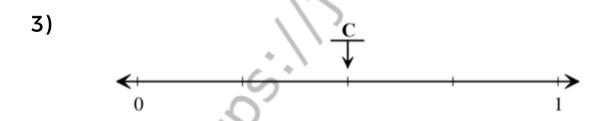
Switch fractions back to their original form:

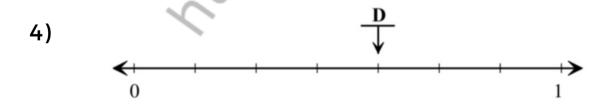
$$\frac{1}{2} < \frac{2}{3} < \frac{3}{4} < \frac{5}{6}$$

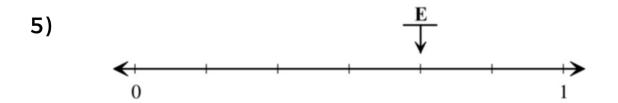
Identify the Fraction Using Number Line



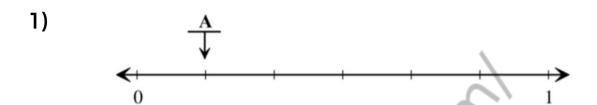


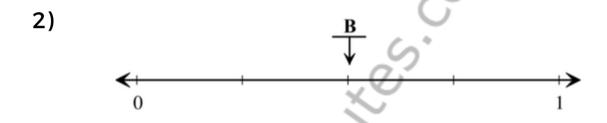




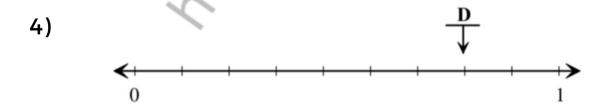


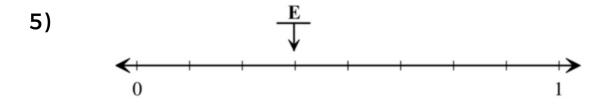
Identify the Fraction Using Number Line





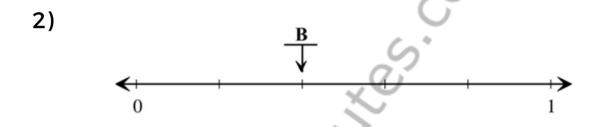


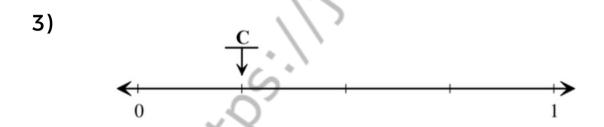




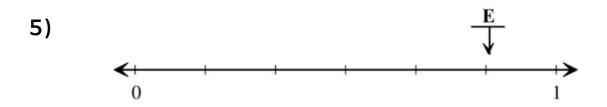
Identify the Fraction Using Number Line







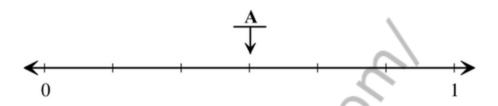




Identify the Fraction Using Number Line

Which fraction do the letter points to?

1)



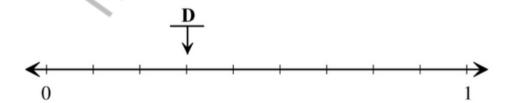
2)



3)



4)



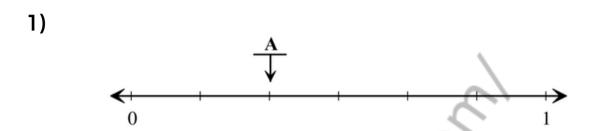
5)



Identify the Fraction Using Number Line

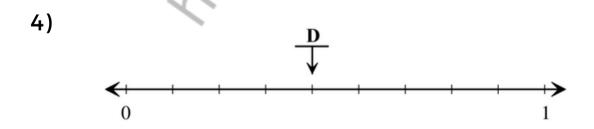
Which fraction do the letter points to?

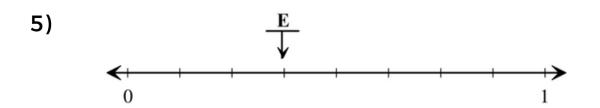
2)









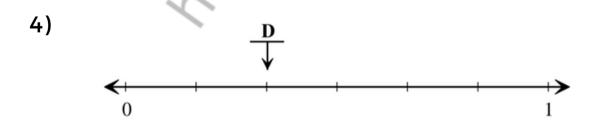


Identify the Fraction Using Number Line





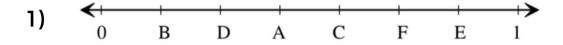






Identify the Fraction

Which fraction do the letter points to?



A =

B =

C =

D=

E =

E≟

A =

B =

C =

D≒

A =

B =

C =

D=

E =

$$A = B = C =$$

Identify the Fraction

Which fraction do the letter points to?

A =

B =

C =

D=

E =

E≟

A =

B =

C =

D≒

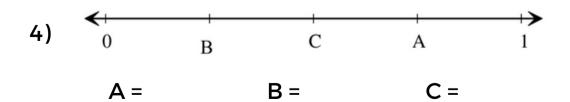
A =

B =

C =

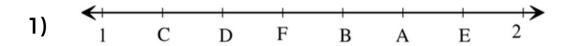
D=

E =



Identify the Fraction

Which fraction do the letter points to?



A =

B =

C =

D=

E =

F≟

A =

B =

C =

D'\

A =

B =

C =

D=

E =

4)
$$C = C =$$

Write the Correct Comparison Symbol (> , < or =) in Each Box

$$\frac{2}{4}$$
 $\boxed{}$ $\frac{3}{4}$

$$\frac{2}{5}$$
 $\boxed{}$ $\frac{2}{10}$

$$\frac{1}{6}$$
 $\frac{2}{6}$

$$\frac{1}{2}$$
 $\frac{1}{2}$

$$\frac{5}{10}$$
 $\frac{1}{2}$

$$\frac{1}{2}$$
 $\frac{1}{6}$

$$\frac{2}{6}$$
 $\frac{1}{3}$

$$\frac{3}{6}$$
 $\boxed{}$ $\frac{3}{4}$

$$\frac{4}{5}$$
 $\boxed{}$ $\frac{3}{4}$

$$\frac{2}{4}$$
 $\frac{1}{5}$

$$\frac{2}{3}$$
 $\frac{4}{10}$

$$\frac{2}{4}$$
 $\frac{1}{2}$

$$\frac{2}{10}$$
 $\frac{2}{6}$

$$\frac{1}{2}$$
 $\frac{4}{5}$

$$\frac{1}{3}$$
 $\boxed{}$ $\frac{4}{5}$

$$\frac{2}{3}$$
 $\boxed{}$ $\frac{2}{3}$

$$\frac{1}{3}$$
 $\boxed{}$ $\frac{6}{10}$

$$\frac{1}{4}$$
 $\frac{5}{6}$

$$\frac{1}{2}$$
 $\frac{2}{3}$

$$\frac{1}{10}$$
 $\frac{1}{5}$

$\begin{array}{c ccccccccccccccccccccccccccccccccccc$					
3 1 4 2 5 5 2 1 5 5 3 1 4 1 3 2 5 2 2 2 4 4 1 2 4 4 1 1 5 1 1 1 1 1 1 1 2 2 4 4					
4 4 2 1 5 5 3 1 4 1 3 2 5 2 4 4 1 2 4 4 1 2 4 4 1 2 4 4 1 1 5 1 1 2 4 4	5 5		3		
4 4 2 1 5 5 3 1 4 1 3 2 5 2 4 4 1 2 4 4 1 2 4 4 1 2 4 4 1 1 5 1 1 2 4 4	<u>3</u> <u>1</u>		<u>2</u>	<u>2</u>	
3 1 4 1 3 2 5 2 4 2 4 4 1 2 4 4 1 2 4 4 1 1 5 5 1 1 1 2 4 4	4 4		5		
3 1 4 1 3 2 5 2 4 2 4 4 1 2 4 4 1 2 4 4 1 1 5 5 1 1 1 2 4 4	<u>2</u> <u>1</u>		2	3	
4 4 3 2 5 5 1 2 4 4 1 3 4 4 1 2 4 4 1 1 5 5 1 2 4 4				5	
4 4 3 2 5 5 1 2 4 4 1 3 4 4 1 2 4 4 1 1 5 5 1 2 4 4	<u>3</u> <u>1</u>		<u> </u>	1	
5 4 4 1 2 2 2 4 4 4 1 3 1 2 3 3 3 1 1 1 1 5 5 4 4 1 2 4 4	4 4			3	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	<u>3</u> <u>2</u>		<u>2</u>	2	
4 4 4 4 1 3 1 2 3 3 3 1 1 1 1 5 5 4 4	5 5		4	4	
4 4 4 4 1 3 1 2 3 3 3 1 1 1 1 5 5 4 4	<u>1</u> <u>2</u>		<u>2</u>	2	
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$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	<u>1</u> <u>3</u>	• /	<u>1</u>	2	
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$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1 1	?	1	1	
5 <u> </u>	5 5		4	4	
<u>1 2</u> <u>1 1</u>	1 3		1	2	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	5 5		4	4	
5 5	<u>1</u> <u>2</u>		1	1	
			5	5	

<u>1</u> <u>2</u>	<u>1</u> <u>1</u>
5 5	4 4
<u>2</u> <u>1</u>	1 2
	4 4
5 5	4 — 4
<u>1</u> <u>3</u>	1 2
	1 2
4 4	3 3
3 1	<u>2</u> 1
5 5	6 3 <u> </u>
1 1	1 2
3 3	3 3
<u>3</u> <u>1</u>	<u>3</u> <u>1</u>
4 4	5 5
<u>1</u> <u>3</u>	<u>3</u> <u>1</u>
4 4 6	4 4
	· — ·
<u>2</u> <u>1</u>	<u>2</u> <u>3</u>
44	5 5
1 1	2 2
1 1	<u>2</u> <u>2</u>
4 4	5 5
1 2	<u>2</u> <u>1</u> 5
5 5	5 5

	1	
1	2	<u>2</u> <u>3</u>
5	5	5 5
2	<u>1</u>	<u>1</u> <u>1</u>
3	3	5 5
2	<u>3</u>	<u>1</u> <u>2</u>
5	5	3 3
U U	_ •	
2	<u>2</u>	<u>2</u> <u>1</u>
5	5	4 4
5		\sim \sim \sim
2	1	(7) 2 1
2	<u>1</u>	3 1
3	3	5 5
	. ~	7
3	2	<u>2</u> <u>2</u>
5	5	4 4
1	2	2 1
1	5	<u>2</u> <u>1</u>
5	_ 5	5 5
2	2	1 1
5	5	3 3
1	3	<u>3</u> <u>1</u>
5	5	4 4
1	1	<u>3</u> <u>2</u>
5	5	5 5

1 2	<u>4</u> 10	<u>4</u> <u>2</u> 4
1 2 _	<u>2</u> 4	$\begin{array}{ c c }\hline & \frac{4}{8} & \frac{1}{4} \\ \hline \end{array}$
<u>2</u> 10	<u>1</u> 2	<u>5</u> <u>1</u> 10
1 4	<u>1</u> 2	$\begin{array}{ c c }\hline & \frac{1}{2} & \frac{1}{10} \\ \hline & \frac{1}{2} & \frac{1}{10} \\ \hline \end{array}$
<u>2</u> 8	<u>1</u> 2	$\frac{1}{2}$ $\frac{5}{10}$
<u>2</u> 8	¹ / ₄	$\frac{4}{8}$ $\frac{1}{2}$
1 4	<u>5</u> 10	$\begin{array}{ c c c }\hline & \frac{4}{10} & \frac{1}{2} \\ \hline & & 2 \\ \hline \end{array}$
<u>2</u> 4	<u>1</u>	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
<u>2</u> 10	<u>1</u> 8	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
<u>2</u> 8	<u>2</u> 4	<u>2</u> <u>5</u> 10

1 <u>5</u> 8	5 10 <u>1</u> 8
5 1 2	<u>2</u> <u>4</u> 10
1 4 10	<u>4</u> <u>2</u> 4
1 2 10	<u>4</u> <u>4</u> 10
1 10 <u>1</u> 4	<u>4</u> <u>2</u> 10
<u>2</u> <u>2</u> 4	<u>4</u> <u>1</u> 10 <u>4</u>
<u>2</u> <u>4</u> 8	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
<u>2</u> <u>4</u> 8	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
1 1 1 2	<u>1</u> <u>2</u> 8
1 4 8	<u>2</u> <u>1</u> 10 <u>4</u>

Converting Improper Fractions to Mixed Numbers

1)
$$\frac{20}{8} =$$

2)
$$\frac{52}{8}$$
 =

3)
$$\frac{49}{9} =$$

4)
$$\frac{27}{6}$$
 =

5)
$$\frac{51}{8}$$
 =

6)
$$\frac{27}{7} =$$

7)
$$\frac{7}{3} =$$

8)
$$\frac{32}{9}$$
 =

9)
$$\frac{23}{10} =$$

10)
$$\frac{7}{3} =$$

11)
$$\frac{14}{4} =$$

4)
$$\frac{27}{6} =$$
5) $\frac{51}{8} =$
6) $\frac{27}{7} =$
7) $\frac{7}{3} =$
8) $\frac{32}{9} =$
9) $\frac{23}{10} =$
10) $\frac{7}{3} =$
11) $\frac{14}{4} =$
12) $\frac{40}{7} =$

13)
$$\frac{32}{5} =$$

14)
$$\frac{31}{4} =$$

15)
$$\frac{39}{6}$$
 =

Converting Mixed Numbers to Improper Fractions

1)
$$8\frac{1}{2} =$$

2)
$$3\frac{1}{2}$$
 =

3)
$$4\frac{1}{2} =$$

4)
$$6\frac{1}{2} =$$

5)
$$9\frac{1}{2} =$$

6)
$$3\frac{1}{2} =$$

7)
$$7\frac{1}{10} =$$

5)
$$9\frac{1}{2} =$$
 6) $3\frac{1}{2} =$ 8) $5\frac{4}{5} =$ 9) $9\frac{1}{2} =$

9)
$$9\frac{1}{2} =$$

10)
$$3\frac{1}{2} =$$

11)
$$7\frac{3}{5} =$$

12)
$$7\frac{1}{9} =$$

13)
$$7\frac{4}{5} =$$

14)
$$4\frac{1}{3} =$$

15)
$$6\frac{5}{7} =$$

Converting Improper Fractions to Mixed Numbers

1)
$$\frac{9}{2} =$$

2)
$$\frac{21}{8}$$
 =

3)
$$\frac{54}{10} =$$

4)
$$\frac{28}{9} =$$

5)
$$\frac{11}{2}$$
 =

6)
$$\frac{23}{5}$$
 =

7)
$$\frac{38}{8}$$
 =

8)
$$\frac{20}{7} =$$

9)
$$\frac{14}{4}$$
 =

10)
$$\frac{33}{7} =$$

11)
$$\frac{31}{4} =$$

4)
$$\frac{28}{9} =$$
5) $\frac{11}{2} =$
6) $\frac{23}{5} =$
7) $\frac{38}{8} =$
8) $\frac{20}{7} =$
9) $\frac{14}{4} =$
10) $\frac{33}{7} =$
11) $\frac{31}{4} =$
12) $\frac{11}{5} =$

13)
$$\frac{13}{2} =$$

14)
$$\frac{14}{6} =$$

15)
$$\frac{16}{3} =$$

Converting Mixed Numbers to Improper Fractions

1)
$$2\frac{1}{2} =$$

2)
$$3\frac{7}{10} =$$

3)
$$9\frac{3}{5} =$$

4)
$$6\frac{1}{10} =$$

5)
$$7\frac{7}{9} =$$

6)
$$4\frac{1}{2}$$
 =

7)
$$6\frac{4}{5} =$$

5)
$$7\frac{7}{9} =$$
 6) $4\frac{1}{2} =$ 8) $3\frac{2}{3} =$ 9) $3\frac{5}{6} =$

9)
$$3\frac{5}{6} =$$

10)
$$5\frac{1}{4} =$$

11)
$$4\frac{1}{7} =$$

12)
$$6\frac{7}{9} =$$

13)
$$9\frac{1}{2} =$$

14)
$$9\frac{2}{3} =$$

15)
$$3\frac{3}{4} =$$

Converting Improper Fractions to Mixed Numbers

1)
$$\frac{17}{4}$$
 =

2)
$$\frac{27}{4} =$$

3)
$$\frac{72}{10} =$$

4)
$$\frac{57}{9} =$$

5)
$$\frac{66}{10}$$
 =

6)
$$\frac{46}{7}$$
 =

7)
$$\frac{23}{4}$$
 =

5)
$$\frac{66}{10} =$$
 6) $\frac{46}{7} =$ 8) $\frac{18}{8} =$ 9) $\frac{35}{8} =$

9)
$$\frac{35}{8} =$$

10)
$$\frac{77}{10} =$$

11)
$$rac{7}{2}=$$

12)
$$\frac{13}{2} =$$

13)
$$\frac{23}{7} =$$

14)
$$\frac{16}{3} =$$

15)
$$\frac{27}{5} =$$

Converting Mixed Numbers to Improper Fractions

1)
$$5\frac{1}{6} =$$

2)
$$3\frac{3}{5} =$$

3)
$$4\frac{1}{2} =$$

4)
$$8\frac{2}{3} =$$

5)
$$9\frac{3}{8} =$$

6)
$$7\frac{1}{5} =$$

7)
$$3\frac{2}{3} =$$

8)
$$4\frac{1}{3} =$$

9)
$$7\frac{2}{3} =$$

10)
$$4\frac{4}{7} =$$

11)
$$7\frac{3}{10} =$$

12)
$$6\frac{1}{2} =$$

13)
$$7\frac{1}{2} =$$

14)
$$3\frac{8}{9} =$$

15)
$$4\frac{3}{4} =$$

Converting Improper Fractions to Mixed Numbers

1)
$$\frac{24}{9} =$$

2)
$$\frac{36}{10} =$$

3)
$$\frac{33}{8}$$
 =

4)
$$\frac{18}{4} =$$

5)
$$\frac{20}{3}$$
 =

6)
$$\frac{23}{5}$$
 =

7)
$$\frac{5}{2}$$
 =

4)
$$\frac{18}{4} =$$
5) $\frac{20}{3} =$
6) $\frac{23}{5} =$
7) $\frac{5}{2} =$
8) $\frac{14}{3} =$
9) $\frac{32}{6} =$
10) $\frac{39}{7} =$
11) $\frac{27}{4} =$
12) $\frac{22}{8} =$

9)
$$\frac{32}{6}$$
 =

10)
$$\frac{39}{7} =$$

11)
$$\frac{27}{4} =$$

12)
$$\frac{22}{8}$$
 =

13)
$$\frac{66}{9} =$$

14)
$$\frac{37}{5} =$$

15)
$$\frac{32}{7} =$$

Converting Mixed Numbers to Improper Fractions

1)
$$9\frac{1}{7} =$$

2)
$$8\frac{3}{10} =$$

3)
$$3\frac{1}{2} =$$

4)
$$4\frac{1}{2} =$$

5)
$$8\frac{2}{3} =$$

6)
$$5\frac{1}{4} =$$

7)
$$2\frac{1}{5} =$$

8)
$$8\frac{2}{5} =$$

9)
$$4\frac{1}{4} =$$

10)
$$9\frac{1}{3} =$$

11)
$$2\frac{1}{3} =$$

12)
$$3\frac{9}{10} =$$

13)
$$7\frac{1}{2} =$$

14)
$$4\frac{3}{8} =$$

15)
$$6\frac{1}{6} =$$

Converting Improper Fractions to Mixed Numbers

1)
$$\frac{31}{6}$$
 =

2)
$$\frac{24}{7} =$$

3)
$$\frac{41}{6}$$
 =

4)
$$\frac{23}{4} =$$

5)
$$\frac{26}{4} =$$

6)
$$\frac{27}{5}$$
 =

7)
$$\frac{18}{5}$$
 =

8)
$$\frac{37}{8}$$
 =

5)
$$\frac{26}{4} =$$
 6) $\frac{27}{5} =$ 8) $\frac{37}{8} =$ 9) $\frac{73}{10} =$

10)
$$\frac{26}{4} =$$
 11) $\frac{63}{8} =$

11)
$$\frac{63}{8} =$$

12)
$$\frac{11}{3}$$
 =

13)
$$\frac{22}{7} =$$

14)
$$\frac{59}{10} =$$

15)
$$\frac{39}{6}$$
 =

Converting Mixed Numbers to Improper Fractions

1)
$$7\frac{9}{10} =$$

2)
$$5\frac{1}{2} =$$

3)
$$9\frac{2}{3} =$$

4)
$$6\frac{8}{9} =$$

5)
$$2\frac{1}{4} =$$

6)
$$7\frac{1}{10} =$$

7)
$$2\frac{2}{3} =$$

8)
$$3\frac{4}{9} =$$

9)
$$8\frac{1}{2} =$$

10)
$$5\frac{1}{2} =$$

11)
$$5\frac{3}{5} =$$

12)
$$5\frac{1}{2} =$$

13)
$$2\frac{2}{3} =$$

14)
$$7\frac{2}{7} =$$

15)
$$4\frac{3}{4} =$$

Order Fractions

1)
$$\frac{3}{10}$$
; $\frac{1}{10}$; $\frac{3}{8}$

2)
$$\frac{3}{5}$$
; $\frac{1}{5}$; $\frac{3}{10}$

3)
$$\frac{7}{10}$$
; $\frac{2}{5}$; $\frac{3}{8}$

4)
$$\frac{5}{8}$$
; $\frac{7}{10}$; $\frac{3}{5}$; $\frac{1}{5}$

5)
$$\frac{1}{10}$$
; $\frac{7}{8}$; $\frac{2}{5}$; $\frac{3}{4}$

6)
$$\frac{3}{5}$$
; $\frac{1}{2}$; $\frac{3}{8}$; $\frac{3}{4}$

7)
$$\frac{4}{5}$$
; $\frac{1}{2}$; $\frac{3}{10}$

8)
$$\frac{3}{8}$$
; $\frac{7}{10}$; $\frac{5}{8}$; $\frac{2}{3}$

9)
$$\frac{3}{8}$$
; $\frac{2}{5}$; $\frac{7}{10}$

10)
$$\frac{2}{5}; \frac{1}{3}; \frac{7}{8}; \frac{5}{8}$$

Order Fractions

1)
$$\frac{2}{5}$$
; $\frac{7}{8}$; $\frac{5}{8}$; $\frac{1}{4}$

2)
$$\frac{4}{5}$$
; $\frac{1}{10}$; $\frac{1}{4}$; $\frac{2}{3}$

3)
$$\frac{1}{8}$$
; $\frac{3}{4}$; $\frac{7}{8}$; $\frac{2}{5}$

4)
$$\frac{4}{5}$$
; $\frac{2}{5}$; $\frac{5}{8}$

5)
$$\frac{7}{8}$$
; $\frac{5}{8}$; $\frac{9}{10}$; $\frac{4}{5}$

6)
$$\frac{1}{2}; \frac{1}{8}; \frac{1}{10}$$

7)
$$\frac{3}{8}; \frac{7}{8}; \frac{2}{5}$$

8)
$$\frac{4}{5}$$
; $\frac{1}{10}$; $\frac{9}{10}$; $\frac{1}{4}$

9)
$$\frac{1}{8}$$
; $\frac{2}{5}$; $\frac{1}{3}$

10)
$$\frac{1}{2}$$
; $\frac{3}{8}$; $\frac{1}{4}$

Order Fractions

1)
$$\frac{3}{5}; \frac{9}{10}; \frac{2}{5}$$

2)
$$\frac{2}{5}$$
; $\frac{1}{10}$; $\frac{3}{10}$

3)
$$\frac{5}{8}$$
; $\frac{2}{3}$; $\frac{1}{10}$

4)
$$\frac{2}{5}; \frac{3}{8}; \frac{1}{10}$$

5)
$$\frac{5}{8}$$
; $\frac{9}{10}$; $\frac{3}{5}$

6)
$$\frac{2}{3}; \frac{3}{4}; \frac{1}{8}$$

7)
$$\frac{3}{5}$$
; $\frac{1}{4}$; $\frac{2}{3}$

8)
$$\frac{4}{5}$$
; $\frac{2}{3}$; $\frac{9}{10}$

9)
$$\frac{1}{2}; \frac{2}{3}; \frac{1}{8}$$

10)
$$\frac{4}{5}$$
; $\frac{2}{3}$; $\frac{1}{8}$

Order Fractions

1)
$$\frac{1}{2}; \frac{4}{5}; \frac{3}{8}$$

2)
$$\frac{1}{3}$$
; $\frac{7}{8}$; $\frac{1}{8}$

3)
$$\frac{1}{2}$$
; $\frac{3}{8}$; $\frac{9}{10}$

4)
$$\frac{2}{5}; \frac{7}{8}; \frac{3}{5}$$

5)
$$\frac{7}{8}$$
; $\frac{1}{10}$; $\frac{1}{3}$

6)
$$\frac{1}{4}; \frac{5}{8}; \frac{3}{5}$$

7)
$$\frac{7}{8}$$
; $\frac{3}{4}$; $\frac{5}{8}$

8)
$$\frac{3}{8}$$
; $\frac{2}{3}$; $\frac{1}{3}$

9)
$$\frac{3}{4}; \frac{1}{2}; \frac{2}{3}$$

10)
$$\frac{1}{10}$$
; $\frac{5}{8}$; $\frac{1}{8}$

Adding Fractions - Same Denominator

A fraction like $\frac{3}{4}$ says we have 3 out of the 4 parts the whole is divided into.



To add fractions there are Three Simple Steps:

- Step 1: Make sure the bottom numbers (the denominators) are the same
- Step 2: Add the top numbers (the numerators), put that answer over the denominator
- Simplify the fraction (if needed)

Example:

$$\frac{1}{4} + \frac{1}{4}$$

Step 1. The bottom numbers (the denominators) are already the same. Go straight to step 2.

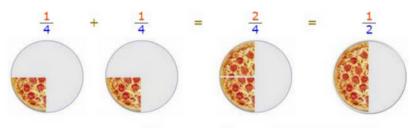
Step 2. Add the top numbers and put the answer over the same denominator:

$$\frac{1}{4} + \frac{1}{4} = \frac{1+1}{4} = \frac{2}{4}$$

Step 3. Simplify the fraction:

$$\frac{2}{4} = \frac{1}{2}$$

In picture from it looks like this:



Subtracting Fractions - Same Denominator

There are 3 simple steps to subtract fractions

- **Step 1.** Make sure the bottom numbers (the denominators) are the same
- **Step 2.** Subtract the top numbers (the numerators). Put the answer over the same denominator.
- Step 3. Simplify the fraction (if needed).

Example 1:

$$\frac{3}{4} - \frac{1}{4}$$

Step 1. The bottom numbers are already the same. Go straight to step 2.

Step 2. Subtract the top numbers and put the answer over the same denominator:

$$\frac{3}{4} - \frac{1}{4} = \frac{3-1}{4} = \frac{2}{4}$$

Step 3. Simplify the fraction:

$$\frac{2}{4} = \frac{1}{2}$$

(If you are unsure of the last step see Equivalent Fractions .)

Adding fractions

1)
$$\frac{3}{4} + \frac{3}{4} =$$

2)
$$\frac{6}{9} + \frac{1}{9} =$$

3)
$$\frac{5}{7} + \frac{6}{7} =$$

3)
$$\frac{5}{7} + \frac{6}{7} =$$
4) $\frac{8}{10} + \frac{4}{10} =$
5) $\frac{16}{25} + \frac{12}{25} =$
6) $\frac{4}{6} + \frac{4}{6} =$

$$5) \ \frac{16}{25} + \frac{12}{25} =$$

6)
$$\frac{4}{6} + \frac{4}{6} =$$

7)
$$\frac{23}{100} + \frac{54}{100} =$$

8)
$$\frac{18}{50} + \frac{42}{50} =$$

Adding fractions

9)
$$\frac{7}{11} + \frac{7}{11} =$$

10)
$$\frac{15}{25} + \frac{7}{25} =$$

11)
$$\frac{1}{3} + \frac{1}{3} =$$

12)
$$\frac{4}{8} + \frac{3}{8} =$$

11)
$$\frac{1}{3} + \frac{1}{3} =$$

12) $\frac{4}{8} + \frac{3}{8} =$

13) $\frac{8}{16} + \frac{10}{16} =$

14) $\frac{3}{12} + \frac{6}{12} =$

14)
$$\frac{3}{12} + \frac{6}{12} =$$

15)
$$\frac{3}{13} + \frac{7}{13} =$$

$$16) \ \frac{8}{15} + \frac{11}{15} =$$

Adding fractions

1)
$$\frac{7}{16} + \frac{14}{16} =$$

2)
$$\frac{2}{12} + \frac{4}{12} =$$

3)
$$\frac{16}{100} + \frac{66}{100} =$$

4)
$$\frac{4}{7} + \frac{2}{7} =$$

3)
$$\frac{10}{100} + \frac{30}{100} =$$
4) $\frac{7}{7} + \frac{7}{7} =$
5) $\frac{9}{25} + \frac{9}{25} =$
6) $\frac{10}{13} + \frac{2}{13} =$

6)
$$\frac{10}{13} + \frac{2}{13} =$$

7)
$$\frac{2}{50} + \frac{11}{50} =$$

8)
$$\frac{13}{14} + \frac{7}{14} =$$

Adding fractions

9)
$$\frac{2}{15} + \frac{5}{15} =$$

10)
$$\frac{3}{6} + \frac{2}{6} =$$

11)
$$\frac{1}{5} + \frac{4}{5} =$$

12)
$$\frac{1}{8} + \frac{5}{8} =$$

11)
$$\frac{1}{5} + \frac{1}{5} =$$

12) $\frac{1}{8} + \frac{3}{8} =$

13) $\frac{1}{10} + \frac{8}{10} =$

14) $\frac{1}{4} + \frac{2}{4} =$

14)
$$\frac{1}{4} + \frac{2}{4} =$$

15)
$$\frac{8}{20} + \frac{5}{20} =$$

16)
$$\frac{3}{9} + \frac{2}{9} =$$

Adding fractions

1)
$$\frac{1}{4} + \frac{1}{4} =$$

2)
$$\frac{2}{3} + \frac{1}{3} =$$

3)
$$\frac{3}{14} + \frac{1}{14} =$$

4)
$$\frac{13}{20} + \frac{13}{20} =$$

5)
$$\frac{68}{100} + \frac{24}{100} =$$
 6) $\frac{4}{6} + \frac{5}{6} =$

6)
$$\frac{4}{6} + \frac{5}{6} =$$

7)
$$\frac{1}{8} + \frac{4}{8} =$$

8)
$$\frac{3}{5} + \frac{4}{5} =$$

Adding fractions

9)
$$\frac{9}{50} + \frac{24}{50} =$$

10)
$$\frac{4}{12} + \frac{6}{12} =$$

11)
$$\frac{1}{2} + \frac{1}{2} =$$

12)
$$\frac{3}{9} + \frac{5}{9} =$$

13)
$$\frac{4}{7} + \frac{6}{7} =$$

14)
$$\frac{2}{15} + \frac{11}{15} =$$

15)
$$\frac{14}{25} + \frac{2}{25} =$$

16)
$$\frac{5}{7} + \frac{4}{7} =$$

Adding fractions

1)
$$\frac{6}{12} + \frac{5}{12} =$$

2)
$$\frac{4}{16} + \frac{4}{16} =$$

3)
$$\frac{2}{4} + \frac{2}{4} =$$

3)
$$\frac{2}{4} + \frac{2}{4} =$$
4) $\frac{1}{14} + \frac{2}{14} =$
5) $\frac{1}{2} + \frac{1}{2} =$
6) $\frac{8}{9} + \frac{4}{9} =$

5)
$$\frac{1}{2} + \frac{1}{2} =$$

6)
$$\frac{8}{9} + \frac{4}{9} =$$

7)
$$\frac{67}{100} + \frac{76}{100} =$$

8)
$$\frac{1}{3} + \frac{2}{3} =$$

Adding fractions

9)
$$\frac{1}{7} + \frac{4}{7} =$$

10)
$$\frac{2}{6} + \frac{1}{6} =$$

11)
$$\frac{11}{15} + \frac{14}{15} =$$

12)
$$\frac{2}{16} + \frac{11}{16} =$$

13)
$$\frac{5}{11} + \frac{6}{11} =$$
 14) $\frac{1}{10} + \frac{9}{10} =$

14)
$$\frac{1}{10} + \frac{9}{10} =$$

15)
$$\frac{17}{20} + \frac{4}{20} =$$

16)
$$\frac{16}{50} + \frac{30}{50} =$$

Adding fractions

1)
$$\frac{2}{3} + \frac{1}{3} =$$

2)
$$\frac{5}{6} + \frac{2}{6} =$$

3)
$$\frac{1}{3} + \frac{1}{3} =$$

3)
$$\frac{1}{3} + \frac{1}{3} =$$
4) $\frac{7}{15} + \frac{9}{15} =$
5) $\frac{99}{100} + \frac{45}{100} =$
6) $\frac{2}{4} + \frac{2}{4} =$

$$5) \quad \frac{99}{100} + \frac{45}{100} =$$

6)
$$\frac{2}{4} + \frac{2}{4} =$$

7)
$$\frac{1}{2} + \frac{1}{2} =$$

8)
$$\frac{5}{10} + \frac{8}{10} =$$

Adding fractions

9)
$$\frac{17}{25} + \frac{19}{25} =$$

10)
$$\frac{1}{7} + \frac{6}{7} =$$

11)
$$\frac{3}{6} + \frac{2}{6} =$$

11)
$$\frac{3}{6} + \frac{2}{6} =$$
12) $\frac{32}{50} + \frac{22}{50} =$
13) $\frac{7}{14} + \frac{13}{14} =$
14) $\frac{7}{16} + \frac{9}{16} =$

13)
$$\frac{7}{14} + \frac{13}{14} =$$

14)
$$\frac{7}{16} + \frac{9}{16} =$$

15)
$$\frac{8}{12} + \frac{6}{12} =$$

16)
$$\frac{5}{9} + \frac{3}{9} =$$

Subtracting fractions

Find the difference.

1)
$$\frac{14}{15} - \frac{13}{15} =$$

2)
$$\frac{6}{9} - \frac{5}{9} =$$

3)
$$\frac{7}{11} - \frac{4}{11} =$$

4)
$$\frac{30}{50} - \frac{22}{50} =$$

5)
$$\frac{95}{100} - \frac{36}{100} =$$
 6) $\frac{8}{10} - \frac{7}{10} =$

6)
$$\frac{8}{10} - \frac{7}{10} =$$

7)
$$\frac{6}{12} - \frac{4}{12} =$$

8)
$$\frac{18}{20} - \frac{17}{20} =$$

Subtracting fractions

9)
$$\frac{14}{30} - \frac{13}{30} =$$

10)
$$\frac{19}{25} - \frac{11}{25} =$$

11)
$$\frac{9}{20} - \frac{8}{20} =$$

12)
$$\frac{4}{5} - \frac{2}{5} =$$

13)
$$\frac{12}{25} - \frac{8}{25} =$$

14)
$$\frac{86}{100} - \frac{74}{100} =$$

15)
$$\frac{17}{30} - \frac{15}{30} =$$

16)
$$\frac{17}{18} - \frac{1}{18} =$$

Subtracting fractions

1)
$$\frac{38}{40} - \frac{37}{40} =$$

2)
$$\frac{4}{20} - \frac{2}{20} =$$

3)
$$\frac{2}{7} - \frac{1}{7} =$$

4)
$$\frac{10}{12} - \frac{6}{12} =$$

5)
$$\frac{3}{5} - \frac{2}{5} =$$

5)
$$\frac{3}{5} - \frac{2}{5} =$$
 6) $\frac{13}{15} - \frac{8}{15} =$

7)
$$\frac{7}{8} - \frac{2}{8} =$$

8)
$$\frac{7}{9} - \frac{6}{9} =$$

Subtracting fractions

9)
$$\frac{10}{11} - \frac{4}{11} =$$

10)
$$\frac{7}{8} - \frac{2}{8} =$$

11)
$$\frac{14}{20} - \frac{9}{20} =$$

12)
$$\frac{3}{6} - \frac{1}{6} =$$

13)
$$\frac{10}{11} - \frac{2}{11} =$$

11)
$$\frac{1}{20} - \frac{1}{20} = 12$$
) $\frac{1}{6} - \frac{1}{6} = 13$) $\frac{10}{11} - \frac{2}{11} = 14$) $\frac{18}{20} - \frac{9}{20} = 14$

15)
$$\frac{3}{6} - \frac{1}{6} =$$

16)
$$\frac{6}{8} - \frac{3}{8} =$$

Subtracting fractions

1)
$$\frac{26}{50} - \frac{21}{50} =$$

2)
$$\frac{6}{7} - \frac{5}{7} =$$

3)
$$\frac{7}{8} - \frac{5}{8} =$$

4)
$$\frac{10}{11} - \frac{8}{11} =$$

5)
$$\frac{4}{5} - \frac{3}{5} =$$

6)
$$\frac{15}{20} - \frac{14}{20} =$$

7)
$$\frac{35}{40} - \frac{27}{40} =$$

8)
$$\frac{9}{10} - \frac{7}{10} =$$

Subtracting fractions

9)
$$\frac{11}{12} - \frac{5}{12} =$$

10)
$$\frac{5}{6} - \frac{4}{6} =$$

11)
$$\frac{2}{3} - \frac{1}{3} =$$

12)
$$\frac{9}{25} - \frac{1}{25} =$$

13)
$$\frac{6}{15} - \frac{4}{15} =$$
 14) $\frac{29}{30} - \frac{12}{30} =$

14)
$$\frac{29}{30} - \frac{12}{30} =$$

15)
$$\frac{3}{4} - \frac{2}{4} =$$

16)
$$\frac{11}{100} - \frac{7}{100} =$$

Subtracting fractions

1)
$$\frac{5}{10} - \frac{4}{10} =$$

2)
$$\frac{4}{7} - \frac{3}{7} =$$

3)
$$\frac{37}{50} - \frac{7}{50} =$$

4)
$$\frac{14}{40} - \frac{2}{40} =$$

5)
$$\frac{14}{25} - \frac{12}{25} =$$
 6) $\frac{16}{18} - \frac{13}{18} =$

6)
$$\frac{16}{18} - \frac{13}{18} =$$

7)
$$\frac{10}{11} - \frac{7}{11} =$$

8)
$$\frac{5}{6} - \frac{4}{6} =$$

Subtracting fractions

9)
$$\frac{3}{4} - \frac{1}{4} =$$

10)
$$\frac{19}{20} - \frac{17}{20} =$$

11)
$$\frac{7}{12} - \frac{2}{12} =$$

12)
$$\frac{7}{8} - \frac{5}{8} =$$

13)
$$\frac{4}{5} - \frac{2}{5} =$$

14)
$$\frac{5}{9} - \frac{2}{9} =$$

15)
$$\frac{25}{30} - \frac{11}{30} =$$

16)
$$\frac{99}{100} - \frac{93}{100} =$$

Subtracting fractions

1)
$$\frac{7}{8} - \frac{4}{8} =$$

2)
$$\frac{44}{50} - \frac{4}{50} =$$

3)
$$\frac{13}{15} - \frac{10}{15} =$$

4)
$$\frac{15}{18} - \frac{14}{18} =$$

5)
$$\frac{7}{9} - \frac{3}{9} =$$

6)
$$\frac{6}{10} - \frac{2}{10} =$$

7)
$$\frac{3}{4} - \frac{2}{4} =$$

8)
$$\frac{24}{30} - \frac{20}{30} =$$

Subtracting fractions

9)
$$\frac{11}{12} - \frac{9}{12} =$$

10)
$$\frac{5}{6} - \frac{3}{6} =$$

11)
$$\frac{23}{25} - \frac{8}{25} =$$

12)
$$\frac{16}{20} - \frac{14}{20} =$$

13)
$$\frac{31}{40} - \frac{18}{40} =$$

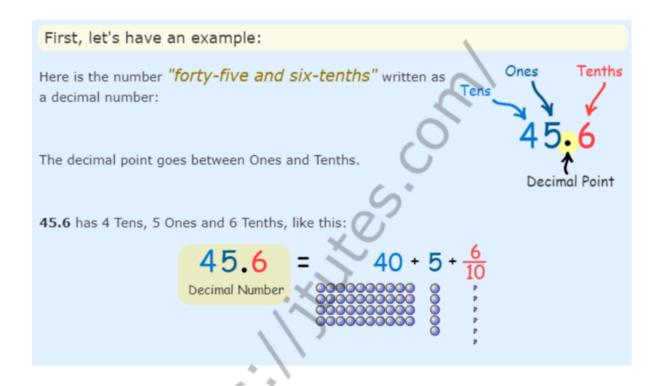
13)
$$\frac{31}{40} - \frac{18}{40} =$$
 14) $\frac{10}{11} - \frac{9}{11} =$

15)
$$\frac{88}{100} - \frac{18}{100} =$$

16)
$$\frac{2}{3} - \frac{1}{3} =$$

WEEK 5 - MATERIAL FOR THIS WEEK WILL BE PROVIDED BY YOUR TUTOR IN THE CLASS

A Decimal Number (based on the number 10) contains a **Decimal Point**.



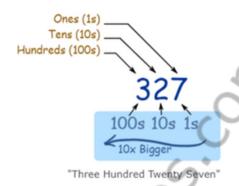
Now, let's discover how it all works.....Place Value

It is all about Place Value!

When we write numbers, the **position** (or "**place**") of each digit is important.

In the number 327:

- the "7" is in the Ones position, meaning 7 ones (which is 7),
- the "2" is in the Tens position meaning 2 tens (which is twenty),
- and the "3" is in the **Hundreds** position, meaning 3 hundreds.



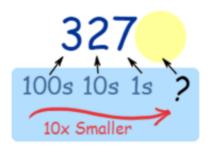
As we move left, each position is 10 times bigger!

Tens are 10 times bigger than Ones
Hundreds are 10 times bigger than Tens

... and ...

As we move right, each position is 10 times smaller!

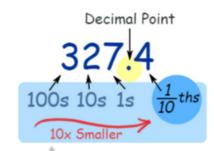
From Hundreds, to Tens, to Ones



But what if we continue past Ones? What is **10 times smaller** than Ones?

$$\frac{1}{10}$$
ths (Tenths) are!

But we must first put a **decimal point**, so we know exactly where the Ones position is:



"three hundred twenty seven **and four tenths**"

but we usually just say

"three hundred twenty seven **point four**"

And that is a Decimal Number!

Ordering Decimals

Ordering <u>decimals</u> can be tricky. Because often we look at 0.42 and 0.402 and say that 0.402 must bigger because there are more digits. But no!

We can use this method to see which decimals are bigger:

- Set up a table with the **decimal point in the same place** for each number.
- Put in each number.
- Fill in the empty squares with zeros.
- Compare using the first column on the left
- If the digits are equal move to the **next column** to the right until one number wins.

Example: Put the following decimals in ascending order:

1.506, 1.56, 0.8

In a table they look like this:

Ones	Decimal Point	Tenths	Hundredths	Thousandths
1		5	0	6
1		5	6	
0		8		7

Fill in the empty squares with zeros:

			_	
Ones	Decimal Point	Tenths	Hundredths	Thousandths
1		5	0	6
1		5	6	0
0		8	0	0

Compare using the first column (Ones)

Two of them are "1"s and the other is a "0". Ascending order needs smallest first, and so "0" is the winner:

Answer so far: 0.8

Now we can remove 0.8 from the list:

Ones	Decimal Point	Tenths	Hundredths	Thousandths
1		5	0	6
1		5	6	0
-		-	-	-

Compare the Tenths

Now there are two numbers with the same "tenths" value of 5, so move along to the "Hundredths"

Compare the Hundredths

One of those has a 6 in the hundredths, and the other has a 0, so the 0 wins (remember we are looking for the smallest each time). In other words 1.506 is less than 1.56:

Answer so far: 0.8, 1.506

Remove 1.506 from the list:

Ones	Decimal Point	Tenths	Hundredths	Thousandths
_		1-1	-	-
1	. 4	5	6	0
-	- 6		-	-

Only one number left, it must be the largest:

Answer: 0.8, 1.506, 1.56

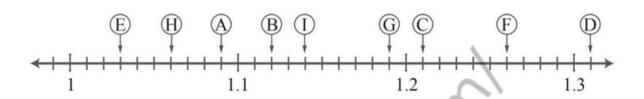
Done!

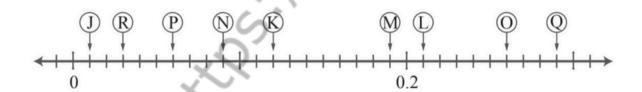
DECIMALS ON NUMBER LINE

What you need to know:
What is a Number Line
Patterns on a number Line
Identifying decimals up to 3 digits

Decimal Number Line (Hundredths)

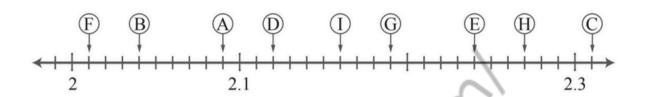
Write the correct letter for each decimal number.





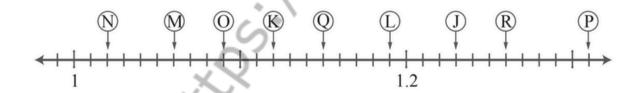
Decimal Number Line (Hundredths)

Write the correct decimal number for each letter.



$$G = \bigcap$$

$$E = \bigcirc$$



$$J =$$

$$M =$$

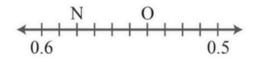
$$N =$$

$$Q =$$

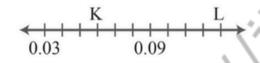
$$R =$$

Decimal Number Line (Hundredths)

Use the number lines to write the decimal value of the letters.



$$S =$$



$$L =$$

$$\begin{array}{c|c}
A & B \\
\hline
52 & 525
\end{array}$$



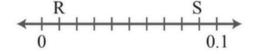
$$X =$$

$$\begin{array}{c|cccc} & U & W \\ \hline & & & 1.2 \\ \hline \end{array}$$

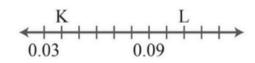
$$W = \begin{bmatrix} & & & \\ & & & \end{bmatrix}$$

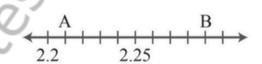
Decimal Number Line (Hundredths)

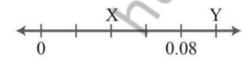




$$S =$$





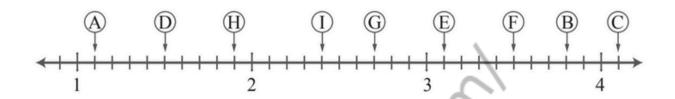




$$W =$$

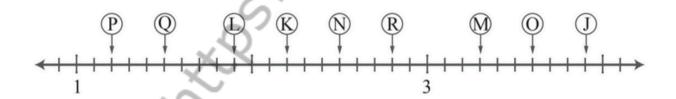
Decimal Number Line (Tenths)

Write the correct decimal number for each letter.



$$D =$$

$$G =$$



$$M =$$

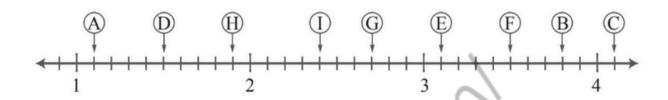
$$P =$$

$$Q =$$

$$R =$$

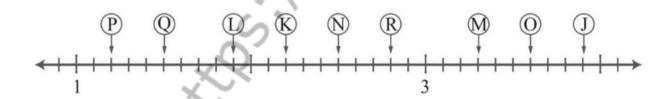
Decimal Number Line (Tenths)

Write the correct decimal number for each letter.



$$D =$$

$$G =$$

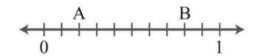


$$P =$$

$$Q =$$

$$R =$$

Decimal Number Line (Tenths)



$$A =$$

$$\stackrel{C}{\longleftrightarrow} \stackrel{D}{\longleftrightarrow}$$



$$E = |$$

$$G H \longrightarrow 2.5 2.9$$

$$G =$$



$$\begin{array}{c|c}
L & K \\
\hline
2 & 4.5
\end{array}$$

1)	0.91	0.95	11)	9.02	0.902
2)	9.12	9.18	12)	8.99	9
3)	7.67	0.767	13)	2.17	2.14
4)	7.96	0.796	14)	6.85	6.88
5)	8.13	0.813	15)	4.65	0.465
6)	9.62	0.962	16)	7.53	7.51
7)	8.74	8.75	17)	7.51	7.57
8)	4.32	4.36	18)	0.35	0.41
9)	6.52	0.652	19)	6.9	6.98
0)	0.89	0.089	20)	1.09	1.1

1)	0.51		0.651	11)	7.456	7.46
2)	1.20		1.25	12)	0.75	0.775
3)	7.02		7.28	13)	9.15	9.19
4)	9.71		9.52	14)	1.66	1.50
5)	0.84		0.88	15)	2.22	3.10
6)	8.42		8.44	16)	2.65	0.252
7)	2.6	Q.	2.26	17)	8.20	8.02
8)	0.25		0.325	18)	3.109	3.18
9)	8.504		0.854	19)	0.07	0.107
10)	1		2.23	20)	8.23	8.02

1) -3.65	-0.365
----------	--------

1) -0.65 -0.369	65
-----------------	----

1	١	-2.92
	,	-2.52

1)	-5.90	-0.589
	,		

1)	1.4
•	,	

1) 0.4 0.14	11) 0.18 0.918
2) 5.205 5.37	12) -5.455.05
3)-0.59 -0.759	13) -0.440.244

4) -7.44	-7.37	14) -0.55	-0.755
7			

1)	6.51	0.651	11)	7.5	7.46
2)	1.19	1.25	12)	7.75	0.775
3)	7.2	7.28	13)	9.16	9.13
4)	9.61	9.59) 14)	1.66	1.72
5)	0.83	0.87	15)	2.98	3.01
6)	8.76	8.74	16)	2.55	0.255
7)	2.6	0.26	17)	8.29	8.25
8)	3.25	0.325	18)	3.19	3.18
9)	8.54	0.854	19)	1.07	0.107
10)	1	0.1	20)	8.23	8.2

1)	6.52		6.651	11)	7.5	7.05
2)	1.20		1.25	12)	0.075	0.775
3)	7.002		7.28	13)	9.20	9.13
4)	9.61		9.160	14)	0.66	1.72
5)	0.87		0.87	15)	2.09	2.10
6)	7.76		7.74	16)	2.05	0.255
7)	2.8	Q	0.28	17)	8.30	8.35
8)	0.33		0.325	18)	3.20	3.18
9)	1.54		0.854	19)	1.700	0.107
10)	2.1		0.1	20)	8.30	8.2

CHAPTER 7 - DECIMALS ADDING & SUBTRACTING

CHAPTER 7 - DECIMALS ADDING & SUBTRACTION

Adding decimals is easy when you keep your work **neat**

To add decimals, follow these steps:

- Write down the numbers, one under the other, with the **decimal points lined up**
- **Put in zeros** so the numbers have the same length (see below for why that is OK)
- **Then add**, using <u>column addition</u>, remembering to put the decimal point in the answer

		")
Example: Add 1.452	to 1.3	
	Line up the decimal points:	1,452
	.x2	+ 1 <mark>.</mark> 3
	"Pad" with zeros:	1.452
	//,	+ 1.3 <mark>00</mark>
	Add:	1.452
	100	+ 1.300
	\sim	2.752
Example: Add 3.25, 0	0.075 and 5	
*C	Line up the decimal points:	3.25
		0.075
1		+ 5.
·		
	"Pad" with zeros:	3.25 <mark>0</mark>
		0.075
		+ 5. <mark>000</mark>
	Add:	3.250
		0.075
		+ 5.000
		8.325

That's all there is to it: line up the decimal points, pad with zeros, then add normally. $_{108}$

To subtract, follow the same method: line up the decimal points, then <u>subtract</u>.

```
Example: What is 7.368 - 1.15?

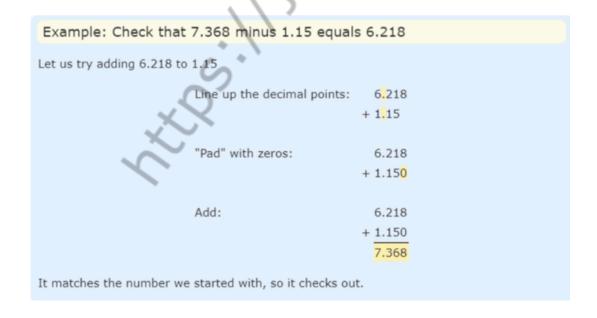
Line up the decimal points: 7.368 - 1.15

"Pad" with zeros: 7.368 - 1.150

Subtract: 7.368 - 1.150

6.218
```

To check we can add the answer to the number subtracted:



Addition of Decimals

$$17) 0.5 + 0.01 =$$

Addition of Decimals

Addition of Decimals

Addition of Decimals

Addition of Decimals

18)
$$0.3 + 0 =$$

Subtracting Decimals from a Whole Numbers

Subtraction of Decimals

Subtraction of Decimals

Subtraction of Decimals

Addition and Subtraction of Decimals

Find the missing numbers.

Addition and Subtraction of Decimals

Find the missing numbers.

Fraction

• •	action
1)	Fran baked 12 lemon tarts for her son, Bob. He gobbled up 4 tarts. What fraction of lemon tarts did Bob eat?
2)	Gina travels a distance of 7 miles to reach home. The bus ride
	covers 5 miles. She then walks 2 miles to reach her home. What fraction of miles does Gina travel by bus?
3)	Anne has 24 pencils in a box. Eighteen pencils have #2 marked on
	them and the 6 are marked #3. What fraction of pencils are marked
	#3?
4)	Dylan has a total of 25 marbles. He gives 5 marbles to his sister,
	Jane. What fraction of marbles did Jane receive?
5)	Emily places 15 roses in a beautiful glass vase. It holds 6 yellow
	roses and 9 red roses. What fraction of roses are red?
6)	John owns a total of 14 pairs of socks of which 7 pairs are black and
	the rest are blue. What fraction of pairs of socks are blue?
7)	Zoe spotted a total of 39 parrots in an aviary at the San Diego Zoo.

She counted 18 macaws and 21 cockatoos. What fraction of

macaws did Zoe spot at the aviary?

122

Fraction

1)	Fiona spent 50 minutes to complete her homework. She spent 30 minutes on her math assignment and 20 minutes on her science assignment. What fraction of time did Fiona spend on her math assignment?
2)	Sandy empties 21 cookies into a jar. Twelve were vanilla-flavored and 9 were chocolate-flavored. What fraction of cookies were vanilla- flavored?
3)	Beth cuts a green apple into 6 slices. She ate 5 slices and gave 1 slice to her sister, Eva. What fraction of the apple did Eva receive?
4)	Lily was gifted 12 fish of two different varieties for her new aquarium. She received 8 goldfish and 4 guppies. What fraction of fish are guppies?
5)	Twenty-one out of the 27 invitees made it for a birthday party. Six invitees could not make it. What fraction of invitees turned up for the party?
6)	Hal visited the museum with \$20 in his pocket. He spent \$8 for an entry ticket and \$12 on lunch. What fraction of money did Hal spend on the entry ticket?

7) Christie buys 7 yards of fabric to stitch up curtains for her home. Three yards of fabric has prints on it and 4 yards are plain. What fraction of fabric has prints on it?

123

1) A standard chessboard has a total of 32 black and white chess.

Fraction

٠,	pieces. There are 16 white pieces and sixteen black pieces. What
	fraction of chess pieces are white?
2)	Adam took up a test that had 25 questions to be answered. He got
	20 of them right and 5 were marked incorrect. What fraction of the
	questions did Adam get right?
3)	On an average, a newborn sleeps for 16 hours and is awake for 8
	hours in a day. Estimate the fraction of time that a baby spends
	sleeping in a total of 24 hours.
	6
4)	Shane borrows a total of 12 books from the local public library. He
	reads 8 books in one week and 4 books remain unread. What
	fraction of books did Shane read in one week?
5)	Ethan walks into the mall with \$10 in his wallet. He buys a cold
	coffee for \$4 and \$6 remain unspent. What fraction of money did
	Ethan spend on coffee?
6)	Jamie bought a pizza that had 12 slices in all. Jamie and his brother
	ate 5 slices and kept aside 7 slices for their cousins. What fraction of

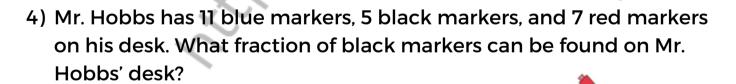
7) Ken has a collection of 28 baseball cards. He gave 11 cards to his friend, Tim. What fraction of baseball cards did Tim receive? $\frac{124}{124}$

pizza did Jamie and his brother eat?

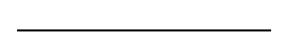


Fraction

Г	action
1)	Stephen collected 36 boxtop coupons in total. He gave 18 of them to his sister. What fraction of boxtop coupons did Stephen finally
	hand over to his teacher?
2)	A cardiologist had 19 appointments fixed for Tuesday. Five appointments were cancelled that morning. What fraction of patients kept their appointments with the doctor on Tuesday?
	+ SM CLINIC
3)	Paula baked two batches of chocolate chip cookies. She used 3
	cups of flour for the first batch of cookies and 2 cups for the second
	batch. What fraction of flour was used to make the first batch of
	cookies?



5) There is a total of 52 building blocks in a bag. Sean uses 38 blocks to build a house. What fraction of building blocks remain unused?





Adding Like Fractions

- 1) Detroit received $\frac{8}{5}$ inches of snow in the morning. The city recorded $\frac{3}{5}$ of an inch of snow in the evening. What was the total snowfall clocked for the day?
- 2) Mrs. Warner bakes an apple pie. The boys in the house ate $\frac{1}{8}$ of the pie, and the girls had $\frac{3}{8}$ of it. What fraction of the pie did the boys and girls eat altogether?
- 3) A farmer and his workmen plow $\frac{5}{2}$ acres of land on Saturday and $\frac{3}{2}$ acres on Sunday. How many acres of land did the farmer and his workmen plow in all?
- 4) Shirley blends $\frac{5}{6}$ of a cup of orange juice and $\frac{13}{6}$ cups of carrot juice to prepare a mocktail. How many cups of juice did Shirley mix altogether?
- 5) Mr. Jenkins conducts an experiment using two spherical metal balls. The steel ball weighs $\frac{11}{9}$ pounds and the iron ball weighs $\frac{16}{9}$ pounds. What is the total weight of the two spherical metal balls?

Adding Like Fractions

- 1) Amy and Jenny shared a pizza. Amy ate $\frac{1}{8}$ of the pizza and Jenny had $\frac{3}{8}$ of it. What fraction of the pizza did Amy and Jenny eat in total?
- 2) Willy drank $\frac{3}{8}$ of a quart of milk in the morning and $\frac{3}{5}$ of a quart of milk in the evening. How many quarts of milk in all did Willy drink?
- 3) Holly decides to paint her pole vault red and blue. If she covers $\frac{5}{3}$ yards of the vault with red paint and $\frac{4}{3}$ yards of it with blue paint, what is the total length of the pole vault?
- 4) Cathy picked $\frac{13}{2}$ pounds of red apples and $\frac{15}{2}$ pounds of green apples from a local farm. How many pounds of apples did Cathy pick from the farm altogether?
- 5) Sean shoveled $\frac{1}{4}$ of an inch of snow from the driveway of his home after a winter storm. He shoveled $\frac{7}{4}$ inches of snow from the deck. How much snow did Sean remove altogether?

Adding Like Fractions

- 1) On Sunday, Erica and her brother spent $\frac{1}{3}$ of their time doing the chores and $\frac{5}{3}$ of their time playing cards. How many hours in all did they spend doing the chores and playing?
- 2) Elvis did $\frac{15}{7}$ loads of laundry in the morning. He did $\frac{13}{7}$ loads of the laundry in the evening. How many loads of clothes, sheets, and towels did Elvis wash in total?
- 3) Jacob planted beans in $\frac{29}{4}$ square yards and tomatoes in $\frac{11}{4}$ square yards in his kitchen garden. How many square yards in all did Jacob plant the vegetables in his kitchen garden?
- 4) Mrs.Hampton walked $\frac{8}{5}$ miles to go to the park. From there, she walked another $\frac{6}{5}$ miles to get to the local bakery. How many miles in total did she walk to get to the bakery?
- 5) Fiona completed $\frac{11}{6}$ of her projects on the first day and $\frac{5}{6}$ of them the next day. What fraction of projects did she complete in 2 days?

Adding Mixed Numbers - Same Denominators

- 1) Benny mixed $5\frac{1}{3}$ cups of canned pineapples with $3\frac{2}{3}$ cups of canned strawberries to make fruity smoothies for an afternoon party. How many cups of the two fruits did he mix?
- 2) During the community service week, the kids spent $2\frac{5}{6}$ days clearing the litter in the park and $1\frac{1}{6}$ days planting trees. How many days of the week did they spend performing the two activities?
- 3) Jesse, a chef, completed all orders in the first half of the day with $15\frac{1}{2}$ loaves of bread and $17\frac{1}{2}$ loaves in the second. How many loaves of bread did she use that day?
- 4) Indiana ran $2\frac{7}{10}$ miles one day. She ran $3\frac{1}{10}$ miles the next day. How many miles did she run in the two days?

5) A gardener mixed $4\frac{4}{5}$ sacks of soil with $3\frac{1}{5}$ sacks of compost. How many sacks of the two did he mix together?

Adding Unlike Fractions

- 1) A recipe for banana pudding calls for $\frac{2}{3}$ of a cup of sugar for the flour mixture and $\frac{1}{4}$ of a cup of sugar for the meringue topping. How many cups of sugar in all is required to make the banana pudding?
- 2) Vivian bought a pack of agate beads. She used $\frac{3}{4}$ of the pack to make a necklace and $\frac{1}{8}$ of the pack to make earrings. What fraction of the pack of beads did she use altogether?
- 3) Quinn baked a mince pie for Christmas. The recipe included $\frac{1}{2}$ of a teaspoon of allspice and $\frac{3}{8}$ of a teaspoon of ground nutmeg. What was the total quantity of the two spices that Quinn used?
- 4) Louise bought $\frac{15}{2}$ pounds of white potatoes and $\frac{3}{4}$ of a pound of red potatoes at the supermarket. How many pounds of potatoes did Louise buy altogether?
- 5) Brittany used foam stickers to make a greeting card. She used $\frac{5}{3}$ packs of heart stickers and $\frac{7}{6}$ packs of flower stickers to make it. How many packs of foam stickers did she use in total to make the greeting card?

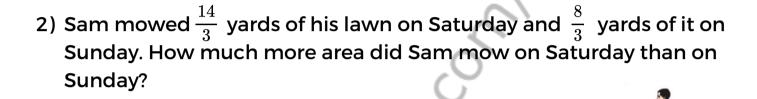
Adding Unlike Fractions

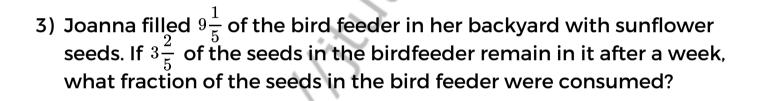
1) Adrian walked $\frac{2}{5}$ of a mile and jogged $\frac{1}{10}$ of a mile in the park. How many miles in all did Adrian walk and jog in the park?

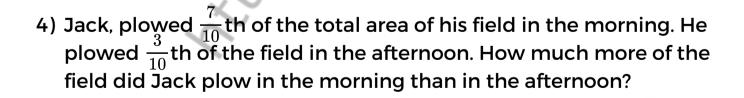
- 2) Jake's Diner prepares $\frac{5}{2}$ pounds of chicken to make kebabs and $\frac{11}{3}$ pounds to make quiches. How many pounds of chicken does Jake's Diner prepare in total?
- 3) Ashton ate $\frac{7}{3}$ cups of cereal for breakfast. Ethan, his brother, had $\frac{5}{4}$ cups. How many cups of cereal did Ashton and Ethan eat altogether?
- 4) David used $\frac{5}{3}$ cans of paint to do up the interior of his son's treehouse. He used $\frac{7}{2}$ cans of paint to amp up its roof. How many cans of paint did David use in all?
- 5) Julie prepared cheese quesadillas for dinner. She used $\frac{1}{2}$ of a cup of cheddar cheese and $\frac{11}{4}$ cups of mozzarella cheese. How many cups of cheese were the quesadillas made with?

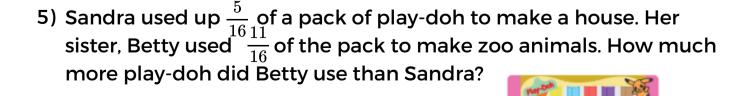
Subtracting Like Fractions

1) A chef prepared $24\frac{2}{7}$ gallons of soup to serve his customers at his restaurant. By the end of the day, $5\frac{3}{7}$ gallons of soup was left over. How many gallons of soup were served to the customers through the day?





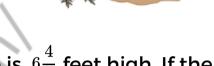




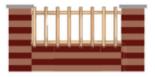


Subtracting Like Fractions

1) On Friday, Blake took an inventory at his fast food joint and found $\frac{7}{15}$ th of a sack of flour that lay unused. The next day, $\frac{4}{15}$ th of sack of flour was left over. What fraction of the sack of flour was used up on Saturday?



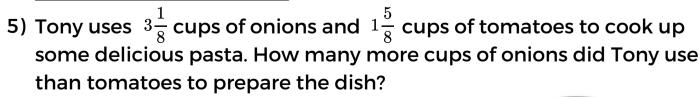
2) The total height of a wall along with a fence is $6\frac{4}{5}$ feet high. If the height of the wall is $5\frac{1}{5}$ feet high, find the height of the fence.



3) Frank filled $\frac{7}{9}$ th of a pitcher with orange juice. His children drank up $\frac{5}{9}$ th of the pitcher of juice. How much of the pitcher contains orange juice now?



4) Kelly went trick or treating on Halloween and collected $\frac{25}{7}$ pounds of candies. She gave some away to her family and now $\frac{4}{7}$ pounds of candies remain. How many pounds of candies did Kelly share with her family?





Subtracting Unlike Fractions

1) Brooke watched a YouTube video that featured a Filipino chicken recipe. She bought $5\frac{3}{4}$ pounds of chicken from the local store. If the recipe called for $2\frac{1}{2}$ pounds of chicken, how many pounds of chicken remain unused?



- 2) Noah stood $55\frac{2}{3}$ inches tall on his tenth birthday. If he stood $58\frac{1}{2}$ inches on his eleventh birthday, how much taller has Noah grown over the past year?
- 3) Macy jogged and walked a total of $\frac{37}{9}$ miles in Central Park today. If she jogged a distance of $\frac{8}{3}$ miles, how many miles did Macy walk?



- 4) Dave and Sam take a tour of a chocolate factory in Hershey, PA. Dave bought $\frac{11}{20}$ pounds of chocolate and Sam purchased $\frac{7}{10}$ pounds of chocolates. How many more pounds of chocolate did Sam purchase than Dave?
- 5) Amelia took an online practice test and attempted two-thirds of the total number of questions. If one-sixth of the questions attempted were incorrect, what fraction of questions did she get right?

Subtracting Unlike Fractions

1) Ursula dished up a salad using $\frac{5}{8}$ th of a can of garbanzo beans and $\frac{1}{4}$ th of a can of black beans. How much more garbanzo beans did Ursula put in the salad than black beans?



- 2) Mike prepares $10\frac{1}{2}$ cups of limeade punch and stores it in the refrigerator. He drinks $2\frac{3}{4}$ cups of the limeade in the afternoon. How many cups of limeade punch remain?
- 3) Andrew's schedule includes $8\frac{1}{2}$ hours of guitar practice every week. If he has completed $4\frac{5}{6}$ hours of practice sessions by Thursday, how many more hours does he need to put in for the rest of the week?



4) Russell drives a total of $\frac{22}{3}$ miles to get to work. After covering a distance of $\frac{5}{9}$ miles, he stops over at a cafe for a quick bite. How much farther does Russell have to travel to reach his office?



5) Mr. Dawson, a marine biologist measured the length of two species of catfish. The lengths recorded were $3\frac{9}{10}$ feet and $5\frac{1}{5}$ feet respectively. What is the difference in the length between the two species of catfish.

1)	Brenda and Jenna saved up \$81.75 and \$45.25 respectively to buy a gift for Mother's Day. How much money in all have the sisters set aside for the gift?
_ `	
2)	Miley buys an assorted box of chocolates that contains 18.61 ounces of dark chocolate and 37.23 ounces of milk chocolate. How much do the chocolates weigh in total?
3)	Reynard and his friends visited an orchard on Sunday. They picked 12.34 pounds of apples and 9.56 pounds of blueberries. How much did the fruits weigh in all?
4)	Susan placed an order for a drum set priced at \$79.99 and an electronic organ for \$54.49. How much does Susan have to pay in total once she receives the items?
5)	Lily Hayes ran a distance of 3.57 miles on Saturday as a part of her morning workout. On Sunday, she ran 4.98 miles. How many miles in all did Lily run over the weekend?

- 1) Allen picks two planks of pine to make a shelf. One plank of pine is 98.42 inches long and the other plank is 59.05 inches long. What will be the total length of the planks when joined together?
- 2) Kelly used 39.5 fluid ounces of orange juice and 11.5 fluid ounce of lemonade to make 10 popsicles for her kid sisters. How many fluid ounces of juice in all did Kelly use to make the popsicles?
- 3) Dallas received 0.29 inch of rainfall on Monday. The following day, it received 0.72 inch of rainfall. How many inches of rainfall did Dallas receive altogether over two days?
- 4) Noami prepares miso soup as an appetizer for a family Thanksgiving dinner. She uses 95.4 fluid ounces of chicken broth to prepare the soup. She then pours in 23.85 fluid ounces more to reduce the intensity of the flavour. How much chicken broth does Noami use altogether to prepare the miso soup?
- 5) Isabel bought a dinner set for \$54.99 and a cereal bowl set for \$9.95 during an anniversary sale at the Bluebird. How much was Isabel billed in total for her purchases at the store?

- 1) Allen picks two planks of pine to make a shelf. One plank of pine is 98.42 inches long and the other plank is 59.05 inches long. What will be the total length of the planks when joined together?
- 2) Kelly used 39.5 fluid ounces of orange juice and 11.5 fluid ounce of lemonade to make 10 popsicles for her kid sisters. How many fluid ounces of juice in all did Kelly use to make the popsicles?
- 3) Dallas received 0.29 inch of rainfall on Monday. The following day, it received 0.72 inch of rainfall. How many inches of rainfall did Dallas receive altogether over two days?
- 4) Noami prepares miso soup as an appetizer for a family Thanksgiving dinner. She uses 95.4 fluid ounces of chicken broth to prepare the soup. She then pours in 23.85 fluid ounces more to reduce the intensity of the flavour. How much chicken broth does Noami use altogether to prepare the miso soup?
- 5) Isabel bought a dinner set for \$54.99 and a cereal bowl set for \$9.95 during an anniversary sale at the Bluebird. How much was Isabel billed in total for her purchases at the store?

Decimals

1)	The height of the wall around a gorilla exhibit in a zoo measures 12.62 feet. Solid wooden beams measuring 3.73 feet are fixed to increase the height of the wall. How tall is the wall now?
2)	Abby made a ribbon medallion using 8.47 inches of pink ribbon
	and 9.12 inches of green ribbon. How many inches of ribbon in all did she use to make the medallion?
3)	Donovan bought a humidifier for \$21.96 and a ceramic heater for
	\$47.95 to keep his home warm during winter. How much was
	Donovan billed for in total?
4)	A company places a huge Christmas tree measuring 19.38 feet at its
	entrance. A crystal star measuring 1.93 feet in length is positioned
	on top of the tree. How tall does the X'mas tree stand now?
5)	Greg travels 3.55 miles to his office on Monday. He takes a detour
	and covers a distance of 4.51 miles, when returning home. How

many miles in all does Greg travel on Monday?

Decimals

1)	Angie spent \$131.56 on groceries during the week preceding Christmas. Her grocery expenses amounted to only \$56.91 during the Christmas week, as she was out of town. How much more money did Angie spend on groceries during the week before Christmas than the following week?
2)	Ken and Joe attend a health camp at school. Their heights are noted as
	4.01 feet and 3.71 feet respectively. What is the dilerence in height
	between Ken and Joe?
	2
3)	Luke plays an online game and takes a total of 74.7 seconds to complete
	two rounds. If he took 14.6 seconds to clear round two, how much time
	did he take to "finish round one?
	60
	0
4)	The tallest tree among the redwoods situated in California measures
	379.7 feet. The tallest tree among the mountain-ash species in Australia
	stands at 326.77 feet. What is the difference in height between the two
	trees?
- /	
J)	Jake lives in Philadelphia and plans to attend his alumni reunion party in Connecticut, which is 190.8 miles away. He drives 105.7 miles and
	John John Hillori is 15 old fillios arragilio allivos 100// fillios alla

reaches New York City. How many more miles does Jake have to drive to

reach his "final destination?

Decimals

1)	Victor drives a distance of 21.45 miles everyday from home to his office. He moves into a new apartment that is just 3.65 miles away from his office. Determine the distance by which Victor has lessened his commute to the office.
2)	Kent rents out an open-air pavilion to celebrate his daughter's birthday.
-,	He makes a down payment of \$125.75 at the time of reservation. The
	total cost of renting the pavilion for the event is \$400.25. How much
	more money does Kent need to pay once the celebrations are over?
	S*
3)	The sidewalk of a park is covered with concrete and stone slabs. The
	concrete section of the sidewalk spans 6.61 miles and the stone slab
	covers 9.31 miles. How many more miles does the stone slab pavement
	cover than the concrete pavement?
	6.
	0
4)	American gymnast Simone Biles won the all-round gymnastic gold with
	a score of 62.198 points. Her compatriot, Aly Raisman took silver with a
	score of 60.098. By what margin did Simone win gold?
5)	According to official bowling rules of the Professional Bowlers
	Association, the circumference of a ball shall not exceed 27,002 inches

nor be less than 26.704 inches. What is the difference in measurement

between the maximum and the minimum circumference permitted?

Decimals

1)	As part of a science experiment, George had to find the individual weights of two alloy steel balls of different sizes. Put together, the steel balls weighed 2.45 pounds on the scale. If one steel ball weighed 1.29 pounds, determine the weight of the other one.
2)	The melting points of Phosphorous and Sulfur are 111.47°F and 239.38°F respectively. How much higher is the melting point of Sulfur than Phosphorous?
3)	Bob Beamon leaped 29.19 feet and set a world record in the long jump event at the 1968 Olympics. Mike Powell broke the 23-year-old world record in 1991, when he jumped 29.36 feet. By what distance did Powell surpass the record?
4)	Jack, a farmer picked 14.84 pounds of raspberries. He kept aside 5.37 pounds of raspberries to make some jam and sent the rest to the farmer's market. How many pounds of raspberries did Jack dispatch to the market?
5)	At the supermarket, Ashley bought two bottles of peanut butter worth \$11.67. If she used a discount coupon worth \$3.50 at the billing counter,

how much money will she have to pay for her purchase?

Decimals

cars.

1)	during the winter of 1978-79. Its lowest snowfall of 81.3 inches was recorded during the winter of 1930-31. How much more snowfall did Michigan receive during the winter of 1978-79 than in 1930-31?
2)	Eric, a fitness enthusiast, visits a store and buys a Fitness Tracker for \$84.99 and a Heart Rate Bracelet Monitor for \$44.99. How much does Eric spend in all on his purchase?
3)	A one-year subscription of a science magazine costs \$37.00. If you were to buy 12 issues of the same magazine from a newsstand for a year, you would end up spending \$72.88. How much will you save by opting for a subscription?
4)	Sally used 8.74 inches of a ribbon to make a bow for her hairband and another 12.32 inches to make a bow for her hat. Determine the total length of ribbon used to make the bows.
5)	The Cooper family owns a luxury sedan and a compact car. The fuel tank capacity of the luxury sedan is 22.45 gallons and that of the compact car is 8.7 gallons. Find the difference in the fuel tank capacities of the two

1)	On Easter, Melvin rode 41.5 miles to visit his grandmother in Chicago. On his way back home, he took a scenic route and covered a distance of 59.4 miles. How many miles in all did Melvin ride that day?
2)	A patient's body temperature was recorded as 99.8°F at 8 p.m. The
	temperature rose to 103.7°F by 11 p.m. Find the rise in body temperature between 8 p.m. and 11 p.m.
3)	Rhea clocked 35.6 minutes to complete a hiking trail. She then hiked for another 19.3 minutes to reach the waterfalls. How much time in all did
	Rhea clock on her hike?
4)	Jenna places an order for gravel from a home improvement store to II up her drive. A dump truck transports 881.84 pounds of gravel to Jenna's residence. How much gravel was used to II up the drive, if 110.23 pounds of gravel was left over?
5)	Nyles made a few purchases online. He ordered for a hand vacuum cleaner for \$59.87 and a regular vacuum cleaner for \$49.88. How much did Nyles swipe his card for?

Decimals

cook that night?

1)	Henry needs to perform a titration in the chemistry lab. He took 2.36 minutes to II in solutions and fix the apparatus and 3.24 minutes to determine the concentration of the unknown solution. How much time in all did Henry take to complete the experiment?
2)	A discount sale is on at Bloomingdale's. Carl decides to buy a pair of
	branded jeans, the original price of which is \$69.50. If the mark down
	price on the pair of jeans to \$49.99, how much money does Carl save on
	his purchase at Bloomingdale's?
	6°
	X Y
3)	Jimmy's produce market received 94.67 pounds of potatoes on
	Saturday. An additional load of 85.12 pounds of potatoes arrived on
	Sunday. How many pounds of potatoes in all did Jimmy's produce
	market receive over the weekend?
	market receive over the weekend:
4)	Victoria deposits two checks that are worth \$91.34 in all, into her
	checking account. If one check is written for \$42.67, how much is the
	other check worth?
	
5)	Megan buys 11.65 pounds of salmon fillets from the supermarket and

puts away 9.5 pounds in the freezer. She uses the remaining fillets to

make a family dinner. How many pounds of salmon fillets did Megan

146

WEEK 10 - MATERIAL FOR THIS WEEK WILL BE PROVIDED BY YOUR TUTOR IN THE CLASS