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Converting fractions, decimals and percentages

Find  $x\%$  of a number

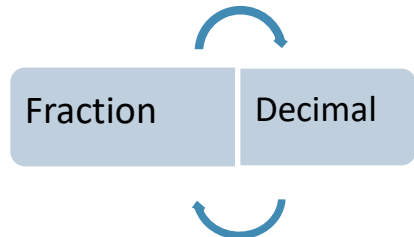
Ordering Fractions and decimals

Practice questions

Questions from past papers on covered topics

## A. Converting fractions, decimals and percentages

### a. Fraction to decimal conversion:



To convert a fraction into a decimal, divide the numerator by the denominator.

Fraction	Conversion steps	Decimal Value
1/2	Divide numerator (1) by denominator (2)	0.5
2 4/5	Divide numerator (4) by denominator (5)	2.8
2/3	Divide numerator (2) by denominator (3)	0.66
2/5	Divide numerator (2) by denominator (5)	0.4

### Practice questions:

#### 1. Convert the fractions to decimal

S.No	Fractions	Decimals		S.No	Fractions	Decimals
1	9/10			11	1/7	
2	5/16			12	5/6	
3	3/10			13	5 1/6	
4	7/8			14	4 3/7	
5	3 7/8			15	9 3/4	
6	12 1/2			16	1 8/9	
7	4 1/5			17	11/12	
8	9/16			18	8 1/8	
9	2 2/5			19	4 5/6	
10	7 3/5			20	6 1/5	

### b. Decimal to fraction conversion:

#### 1. Count the Decimal Places:

- Count how many digits are after the decimal point. This tells you what power of 10 your denominator will be.
- Example:
  - For 0.75, there are 2 decimal places.
  - For 0.5, there is 1 decimal place.

## 2. Write the Decimal as a Fraction:

- Use the number without the decimal point as the numerator (top number).
- The denominator will be 10, 100, or 1000, depending on how many decimal places there are.
- **Example:**
  - For 0.75, write it as  $75/100$  (because there are 2 decimal places).
  - For 0.5, write it as  $5/10$  (because there is 1 decimal place).

## 3. Simplify the Fraction:

- **Example:**
  - $75/100 = 3/4$
  - $5/10 = 1/2$  (The final result is the simplified fraction)

## Examples:

### 1. Convert 0.75 to a Fraction:

- Step 1: 0.75 has 2 decimal places.
- Step 2: Write as  $75/100$ .
- Step 3: Simplify  $75/100$  ( $\text{GCD} = 25 \rightarrow 75 \div 25 = 3, 100 \div 25 = 4$ ).
- Final result:  $0.75 = 3/4$ .

### 2. Convert 3.4 to a Fraction:

**Note:** In case of mixed number keep the whole same

- Step 1: 0.4 has 1 decimal place.
- Step 2: Write as  $3 \frac{4}{10}$
- Step 3: Simplify  $3 \frac{4}{10}$

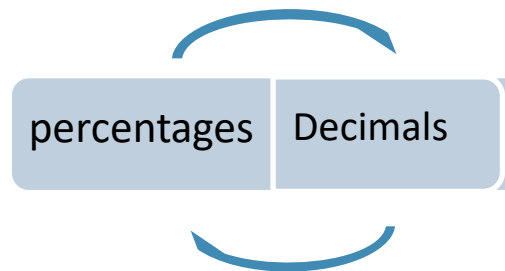
- Final result:  $3 \frac{2}{5}$

## Practice questions:

### 2. Convert decimal to fractions

S.No	Decimals	Fractions		S.No	Decimals	Fractions
1	0.25			11	5.06	
2	0.7			12	0.315	
3	0.35			13	4.5	
4	0.15			14	1.52	
5	0.08			15	0.875	
6	0.22			16	7.9	
7	0.002			17	1.02	
8	0.0006			18	2.64	
9	0.01			19	0.416	
10	1.4			20	3.275	

### c. Percentages to decimals conversion



To

**Note:** convert from percentages to decimals or fractions, divide by 100.

#### Examples:

- Convert 75% to a decimal:  
Divide by 100 =  $75/100$   
Decimal value = 0.75

## Practice questions:

### 3. Convert percentage to decimal value

S.No	Percentage	Decimal		S.No	Percentage	Decimal
1	79%			11	18.52%	
2	6.5%			12	5%	
3	45%			13	9.05%	
4	30%			14	27%	
5	54%			15	140%	
6	59.75%			16	43.7%	
7	82%			17	322%	
8	1%			18	64%	
9	38.5%			19	16%	
10	5.04%			20	0.035%	

### d. Decimals to percentage conversion

**Note:** convert from decimal to percentage multiply by 100.

#### Examples:

- Convert 0.54 to a percentage:  
Multiply by 100 =  $0.54 \times 100$   
Percentage value = 54%

### Practice questions:

### 4. Convert decimal to percentage

S.No	Decimals	Percentages		S.No	Decimals	Percentages
1	0.98			11	0.52	
2	0.76			12	0.315	
3	0.45			13	4.5	
4	0.15			14	2.15	
5	0.98			15	0.875	
6	0.82			16	7.9	
7	0.082			17	1.02	
8	0.06			18	2.64	
9	0.001			19	0.416	
10	1.04			20	3.275	

## B. Finding x% of a number

X% of a number =  $(X/100) \times \text{Number}$  (Note OF means multiplication)

e.g: 30% of 80 =  $30/100 \times 80$

$$= 2400/100 = 24$$

### Practice questions:

#### 5. Find x% of the below numbers

S.No	Percentage of number	Value		S.No	Percentage of number	Value
1	90% of 36km			11	52% of 760 ml	
2	86% of 45m			12	4 $\frac{3}{4}$ % of 300 ml	
3	48% of 85kg			13	16 $\frac{4}{5}$ % of 215mm	
4	75% of 98ml			14	80% of 45p	
5	18% of 150ml			15	16 $\frac{1}{4}$ % of 384kg	
6	92% of 220tonnes			16	1 $\frac{1}{2}$ % of £1200	
7	52% of £180			17	12 $\frac{1}{2}$ % of £8500	
8	7% of 885 ml			18	53% of 60 miles	
9	11% of 121 litres			19	90% of 4 ml	
10	14% of 434 g			20	6% of 72 cm	

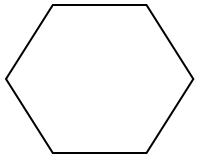
## C. Arranging decimals and fractions in order of size

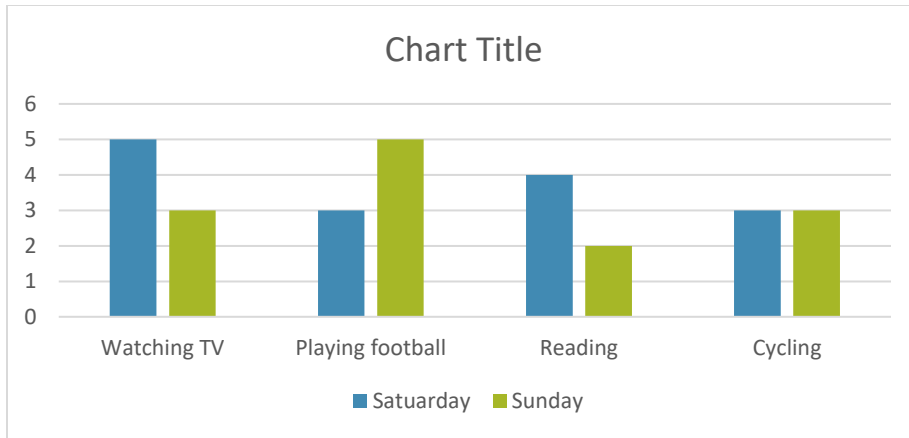
### Practice questions:

Peter Robson book 1: Page 53 section a, b and c

### Questions from past papers from covered topics:

- Find the largest value from 9.325, 9.32,  $22/3$ , 8.91?
- A bottle contains 0.75 liters of juice. How much juice will be in 9 bottles?
- A car travels 180.6 kilometers on 6.3 liters of fuel. How many kilometers can it travel per liter of fuel?

9. Convert 0.625 into a fraction in its simplest form.
10. Round 13.768 to the nearest hundredth.
11. What is the value of the digit 7 in the number 3.746?
12. Giving your answer as a fraction in its simplest form, work out  $\frac{1}{6} + \frac{4}{9}$
13. Ephrem the electrician buys a 5 metre length of copper wire. He cuts four pieces of lengths 1.2m, 2.03m, 85cm and 123mm to fix some wiring in his house. How much copper wire, in metres, does Ephrem have left over?
14. Varshika really likes chips. She ate exactly 22 chips every day for the whole of the year 2024. How many chips did Varshika eat in the whole of the year 2024?
15. What is this number in figures? **five thousand, one hundred and nine.**
16. What is the value of the 7 in this number? **7240**
17. What is the missing number in this sequence? 393, 384, 375, \_\_\_\_\_, 357
18. How many of the triangles will fill the hexagon?
- 
19. Iveta was 1.43 m tall. She grew 2 cm more. How tall was she then in meters?
20.  $123 \div \underline{\hspace{1cm}} = 123$  and  $123 \div \underline{\hspace{1cm}} = 1230$
21. The Jug holds 1 litre of water and there is an empty jar of capacity 700 ml. If the jar is filled from Jug, how much water will be left in the jug?
22.  $A - 10 = 19$  What is the value of A?
23. This chart shows how Mr Jack spent his spare time last week. How many hours did he spend out of doors?



- 24.** Wendy saved £2.50 a week. How many weeks did it take her to save £20?
- 25.** Which of these digital alarm clocks shows that it is quarter past seven in the evening?  
7:15,                  7:25,                  19:25,                  19:15                  and 21:15
- 26.** What percentage of £5 is 50p?
- 27.**  $105 \div \underline{\hspace{2cm}} = 21$
- 28.**  $3.06 \times 10 =$
- 29.** A bag had 36 sweets in it. Ethan took out  $\frac{2}{3}$  of them. How many sweets did he take out?
- 30.** A ship travels 528 nautical miles in one day. How many nautical miles does it travel in 15 days?