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**RED SWASTIKA SCHOOL**
**MATHEMATICS**
**PRIMARY 6**
**CLASS TEST (2)**

35

**Name:** _____ ( ) **Date: 6 May 2024**

**Class: Pr 6 /** _____ **Duration: 45 minutes**
**(Use of calculators is not allowed)**

**Parent's Signature:** _____

Section A

Questions **1** to **2** carry 1 mark each. Questions **3** to **5** carry 2 marks each. For each question, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4) and shade your answer in the Optical Answer Sheet. (8 marks)

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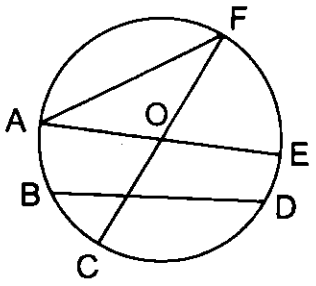
**1** There are 40 students in a class and 25 of them are girls. What is the ratio of the number of boys to number of girls?

(1) 3 : 5
(2) 3 : 8
(3) 5 : 3
(4) 5 : 8

**2** The circle has centre O. AOE and COF are straight lines. Which line is the diameter of the circle?




(1) AF
(2) BD
(3) EO
(4) FC

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2

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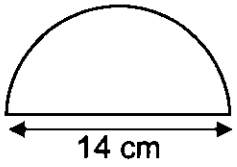
**3** The diameter of the semicircle is 14 cm.




Find the perimeter of the semicircle. (Take $\pi = \frac{22}{7}$)

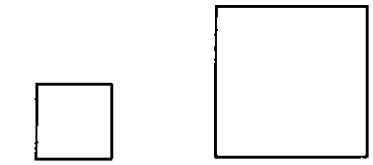
(1) 22 cm

(2) 36 cm

(3) 58 cm

(4) 77 cm

**4** The perimeter of a square X is 36 cm. The length of square Y is 2 times the length of square X.




Find the perimeter of square Y.

(1) 48 cm

(2) 72 cm

(3) 81 cm

(4) 144 cm

**5** Shaun had $100. He spent $60 on a bag and 10% of his remaining money on a shirt. What percentage of his money did Shaun spend in total?

(1) 30%

(2) 36%

(3) 64%

(4) 70%



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Section B

Questions **6** to **13** carry 2 marks each. Show your working clearly and write your answers in the space provided. For questions which require units, give your answers in the units stated.

(16 marks)

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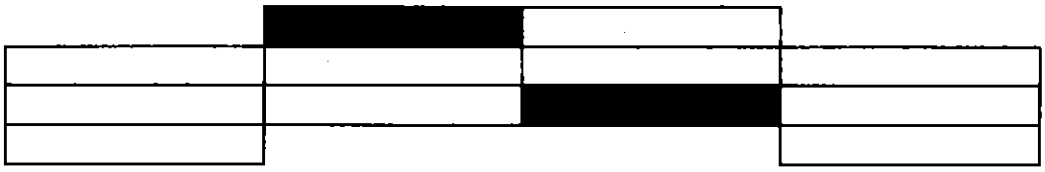
**6** (a) Express 0.5 as a percentage.

Ans: (a) _____%

(b) 200% of a number is 14. What is the number?

Ans: (b) _____

**7** The figure below is made up of 12 identical rectangles.



(a) What is the ratio of the number of shaded rectangles to the number of unshaded rectangles to the total number of rectangles?
Leave your answer in its simplest form.

Ans: (a) _____

(b) How many more rectangles must be shaded so that 75% of the figure is shaded?

Ans: (b) _____

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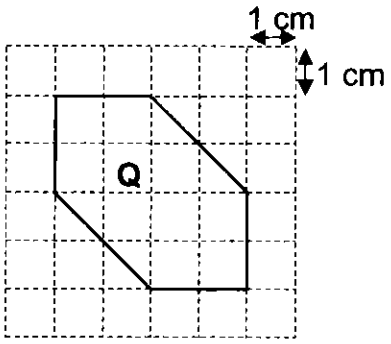
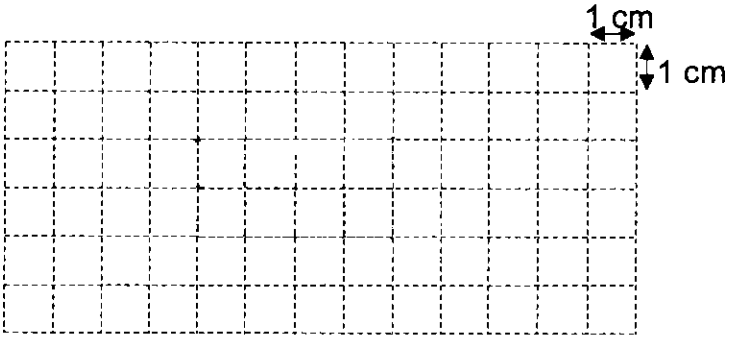
**8** Caleb drew Figure Q in a 1-cm square grid as shown.




(a) Draw a rectangle with the same area as Q on the square grid.




(b) What is perimeter of the rectangle drawn?

Ans: (b) _____cm

---

**9** Katie grew 14 cm taller from Primary 4 to Primary 5. This was a 10% increase in her height.

(a) How tall was Katie when she was in Primary 5?

Ans: (a) _____cm

(b) Katie was 161 cm in Primary 6. What was the percentage increase in her height from Primary 4 to Primary 6?

Ans: (b) _____%

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**10** Mrs Tan used the recipe below to make cookies.

| Recipe for 5 cookies |
| --- |
| 200 g flour |
| 150 g butter |
| 60 g sugar |

Mrs Tan had 700 g of flour, 300 g of butter and 200 g of sugar. She used the ingredients to make the most number of cookies. What percentage of the sugar did she use?

Ans: _____%

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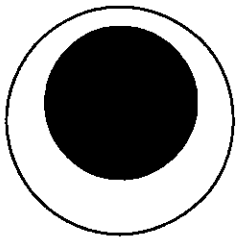
**11** The figure shows two circles. The ratio of the diameter of the small shaded circle to the diameter of the big circle is 2 : 3. Find the ratio of the area of shaded part to the area of the unshaded part.



Ans: _____

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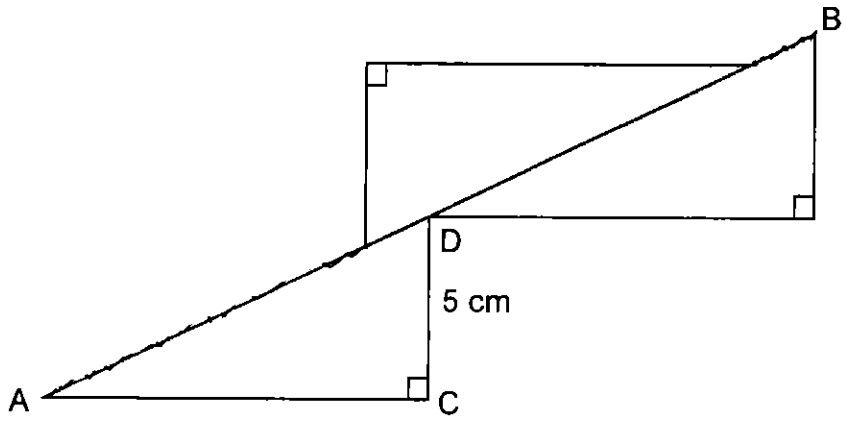
**12** Joe cut out three identical right-angled triangles. He joined them to form the figure below. AB = 26 cm and CD = 5 cm. The perimeter of the figure is 64 cm.




Find the area of one triangle.

Ans: _____ $cm^2$

---

**13** There are some beads in boxes X, Y and Z. 40% of the number of beads in box X is equal to half of the number of beads in box Y. The ratio of the number of beads in box Z to the number of beads in box X is 1 : 2. Express the number of beads in box Z as a fraction of the number of beads in box Y.

Ans: _____

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Section C

For questions **14** to **16**, show your working clearly and write your answers in the space provided. The number of marks available is shown in brackets [ ] at the end of each question.

(11 marks)

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**14** Mrs Kumar prepared some cherries and blueberries to decorate some cupcakes. The ratio of the number of cherries prepared to the number of blueberries prepared was 3 : 10. Each cupcake was decorated with 1 cherry and 3 blueberries. There were 2 blueberries left when all the cherries were used.

(a) What is the ratio of the number of blueberries used to the number of blueberries left?

Ans: (a) _____ [1]

(b) How many cupcakes were there?

Ans: (b) _____ [2]

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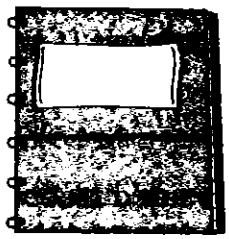
**15** Aisha bought a pen and a notebook during a sale from a shop. She paid a total of $6 for both items after discount. The usual price of the notebook is $5.

**Pen**



**Notebook**

(a) Find the price of the pen after the discount.

Ans: (a) _____ [2]

(b) After the sales, the number of pens in the shop decreased by 60% and the number of notebooks decreased by 20%. As a result, the total number of pens and notebooks in the shop decreased by 8.

Each statement below is either true, false or not possible to tell from the information given above. For each statement, put a tick (√ ) to indicate your answer. [2]

| Statement | True | False | Not possible to tell |
|---|---|---|---|
| There were equal number of pens and notebooks in the shop at first. | | | |
| There were equal number of pens and notebooks sold during the sales. | | | |



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**16** Ali cut out four identical semicircles from an isosceles triangular piece of paper as shown in Figure 1. The diameter of the semicircle is 20 cm. He then arranged the semicircles as shown in Figure 2. (Take $\pi$ = 3.14)

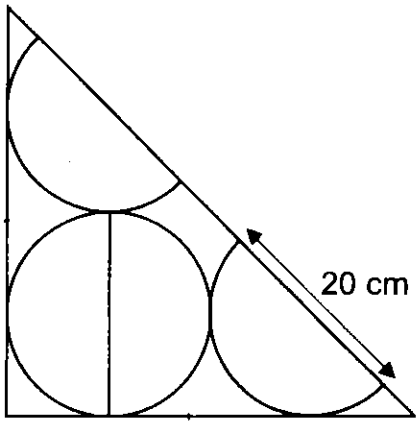


Figure 1

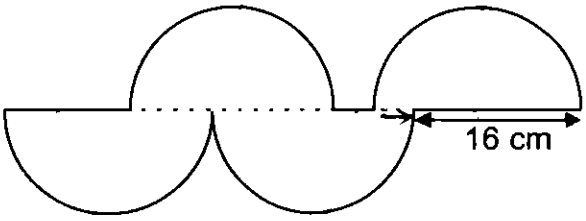


Figure 2

(a) Find the total area of the four semicircles.

Ans: (a) _____ [1]

(b) Find the area of the remaining piece of paper.

Ans: (b) _____ [1]

(c) Find the perimeter of Figure 2.

Ans: (c) _____ [2]

End of Paper

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**RED SWASTIKA SCHOOL**
**MATHEMATICS**
**PRIMARY 6**
**CLASS TEST (2) CORRECTIONS**

_____ ( ) **Date: 6 May 2024**

_____ **Duration: 45 minutes**
**(Use of calculators is not allowed)**

, 1 mark each. Questions 3 to 5 carry 2 marks each. For each question, . One of them is the correct answer. Make your choice (1, 2, 3 or 4) and the Optical Answer Sheet. (8 marks)

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students in a class and 25 of them are girls. What is the ratio of the ys to number of girls?

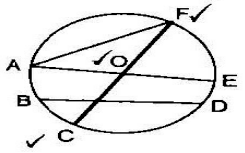
Boys : Girls

15 : 25 ✓

3 : 5

( 1 )

s centre O. AOE and COF are straight lines. Which line is the diameter




( 4 )

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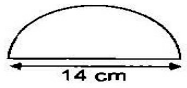
2

**3** The diameter of the semicircle is 14 cm.




r = 7
d = 14

Find the perimeter of the semicircle. (Take $\pi = \frac{22}{7}$)

(1) 22 cm
(2) 36 cm
(3) 58 cm
(4) 77 cm

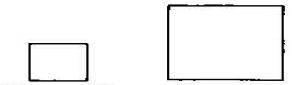
Arc length = $\frac{1}{2} \times \frac{22}{7} \times \frac{14}{1}$

= 22

Perimeter = 22 + 14

= 36

**4** The perimeter of a square X is 36 cm. The length of square Y is 2 of square X.




Find the perimeter of square Y.

(1) 48 cm
(2) 72 cm
(3) 81 cm
(4) 144 cm

Length of X = 36 ÷ 4 = 9

Length of Y = 9 × 2

= 18

Perimeter of Y = 18 × 4

= 72

**5** Shaun had $100. He spent $60 on a bag and 10% of his remain shirt. What percentage of his money did Shaun spend in total?

(1) 30%
(2) 36%
(3) 64%
(4) 70%

Remaining amt = 100 − 60 = 40

Amt spent on shirt = $\frac{10}{100} \times 40$ = 4

Total spent = 60 + 4 = 64

% of money spent = $\frac{64}{100} \times 100$

= 64

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Section B

Questions **6** to **13** carry 2 marks each. Show your working clearly and write your answers in the space provided. For questions which require units, give your answers in the units stated.
(16 marks)

**6** (a) Express 0.5 as a percentage.

$0.5 = \frac{5}{10} = \frac{50}{100}$

Ans: (a) 50 %

(b) 200% of a number is 14. What is the number?

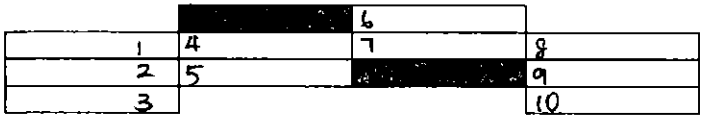
$200u = 14$

$100u = 14 \div 2$

$= 7$

Ans: (b) 7

**7** The figure below is made up of 12 identical rectangles.




(a) What is the ratio of the number of shaded rectangles to the number of unshaded rectangles to the total number of rectangles?
Leave your answer in its simplest form.

S : U : T

2 : 10 : 12

1 : 5 : 6

Ans: (a) 1 : 5 : 6

(b) How many more rectangles must be shaded so that 75% of the figure is shaded?

$\frac{75}{100} \times 12 = \frac{3}{1} \times \frac{12}{1} 3$

$= 9$

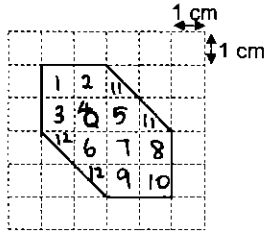
$9 - 2 = 7$

Ans: (b) 7

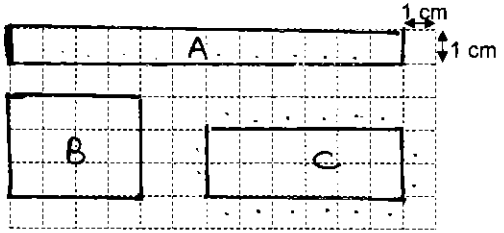


4

**8** Caleb drew Figure Q in a 1-cm square grid as shown.




(a) Draw a rectangle with the same area as Q on the square grid.




(b) What is perimeter of the rectangle drawn?

Perimeter of A = 12+1+12+1 = 26
Perimeter of B = 3+4+3+4 = 14
Perimeter of C = 6+2+6+2 = 16

Ans: (b) 26 or 14 or 16 cm

**9** Katie grew 14 cm taller from Primary 4 to Primary 5. This was a 10% increase in her height.

(a) How tall was Katie when she was in Primary 5?

$10u = 14$

$100u = 14 \times 10 = 140$ (P4)

P5 ⇒ 140 + 14 = 154

Ans: (a) 154 cm

(b) Katie was 161 cm in Primary 6. What was the percentage increase in her height from Primary 4 to Primary 6?

Change from P4 – P6 = 161 – 140

= 21

% ↑ ⇒ $\frac{3}{21} \times 100$

= 15

Ans: (b) 15 %



4

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10 Mrs Tan used the recipe below to make cookies.

| Recipe for 5 cookies |
|---|
| 200 g flour |
| 150 g butter |
| 60 g sugar |

F : B : S
200 : 150 : 60
400 : 300 : 120 ✓
600 : 450 : 180
800 : 600 : 240

Mrs Tan had 700 g of flour, 300 g of butter and 200 g of sugar. She used the ingredients to make the most number of cookies. What percentage of the sugar did she use?

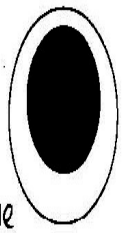
% of sugar used = $\frac{120}{200} \times 100$

$= \frac{60}{}$ /

Ans: 60 %

11 The figure shows two circles. The ratio of the diameter of the small shaded circle to the diameter of the big circle is 2 : 3. Find the ratio of the area of shaded part to the area of the unshaded part.

$D_s : D_B$ $R_s : R_B$
2 : 3 2 : 3



Area of small circle : Area of big circle

$\pi \times 2 \times 2 : \pi \times 3 \times 3$

4 : 9

Unshaded part ⇒ 9 − 4

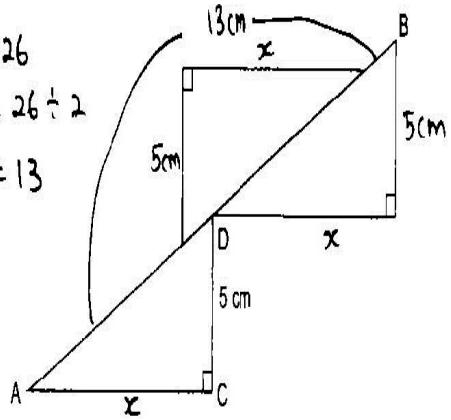
= 5 /

Ans: 4 : 5



4

12 Joe cut out three identical right-angled triangles. He joined them to form the figure below. AB = 26 cm and CD = 5 cm. The perimeter of the figure is 64 cm.




AB = 26

AD = 26 ÷ 2

= 13

Find the area of one triangle.

$3x + 5 + 5 + 5 + 13 = 64$

$3x = 64 - 15 - 13$

$= 36$

$x = 36 \div 3 = 12$

Area of $\Delta = \frac{1}{2} \times 12 \times 5 = 30$ Ans: 30 cm²

13 There are some beads in boxes X, Y and Z. 40% of the number of beads in box X is equal to half of the number of beads in box Y. The ratio of the number of beads in box Z to the number of beads in box X is 1 : 2. Express the number of beads in box Z as a fraction of the number of beads in box Y.

X [40u] [60u]

Y [40u] [40u]

Z [50u] /

Ans: $\frac{5}{8}$ (or any equivalent)



4

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Section C

For questions **14** to **16**, show your working clearly and write your answers in the space provided.
The number of marks available is shown in brackets [ ] at the end of each question.

(11 marks)

**14** Mrs Kumar prepared some cherries and blueberries to decorate some cupcakes. The ratio of the number of cherries prepared to the number of blueberries prepared was 3 : 10. Each cupcake was decorated with 1 cherry and 3 blueberries. There were 2 blueberries left when all the cherries were used.

(a) What is the ratio of the number of blueberries used to the number of blueberries left?

No. of C prep : No. of B prep
3 : 10

No. of C used : No. of B used
1 : 3
3 : 9

same

10 − 9 = 1

Ans: (a) 9 : 1 [1]

(b) How many cupcakes were there?

1 unit = 2

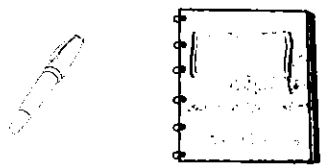
No of cupcakes prepared = 3 × 2 ÷ 1
= 6

Ans: (b) 6 [2]



3

**15** Aisha bought a pen and a notebook during a sale from a shop. She paid a total of $6 for both items after discount. The usual price of the notebook is $5.



Pen Notebook

(a) Find the price of the pen after the discount.

Discounted P of notebook = $\frac{80}{100} \times 5$
= 4

Discounted P of a pen = 6 − 4
= 2

Ans: (a) $2 [2]

(b) After the sales, the number of pens in the shop decreased by 60% and the number of notebooks decreased by 20%. As a result, the total number of pens and notebooks in the shop decreased by 8.

Each statement below is either true, false or not possible to tell from the information given above. For each statement, put a tick (√) to indicate your answer. [2]

| Statement | True | False | Not possible to tell |
|---|---|---|---|
| There were equal number of pens and notebooks in the shop at first. | | | ✓ |
| There were equal number of pens and notebooks sold during the sales. | | ✓ | |

Possible no. of P and N sold

| P | N | Total |
|---|---|---|
| ×1 | 7 | 8 |
| ×2 | 6 | 8 |
| ✓3 | 5 | 8 |
| ×4 | 4 | 8 |
| ×5 | 3 | 8 |
| ✓6 | 2 | 8 |
| ×7 | 1 | 8 |

(8)

If 3 pens sold $\frac{60}{100} = \frac{3}{5}$
No of pens at first = 5
If 5 notebooks sold $\frac{20}{100} = \frac{5}{25}$ 8
No. of notebooks at first = 25

If 6 pens sold $\frac{60}{100} = \frac{6}{10}$
No. of pens at first
= 10
If 2 notebooks sold, $\frac{20}{100} = \frac{2}{10}$
No. of notebooks at first = 10

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**16** Ali cut out four identical semicircles from an isosceles triangular piece of paper as shown in Figure 1. The diameter of the semicircle is 20 cm. He then arranged the semicircles as shown in Figure 2. (Take $\pi = 3.14$)

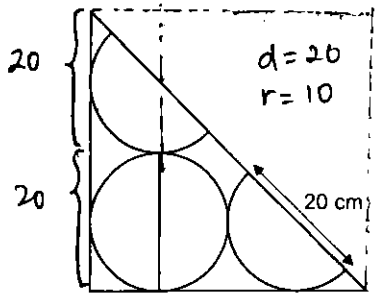

Figure 1

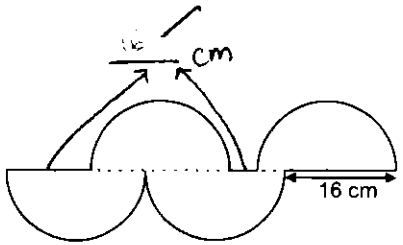

Figure 2

(a) Find the total area of the four semicircles.

2 circles

$2 \times 3.14 \times 10 \times 10$

$= 2 \times 314$

$= 628$

Ans: (a) $628 cm^2$ [1]

(b) Find the area of the remaining piece of paper.

Area of △ paper $= \frac{1}{2} \times 40 \times 40$

$= 800$

Area of remaining paper

$= 800 - 628$

$= 172$

Ans: (b) $172 cm^2$ [1]

(c) Find the perimeter of Figure 2.

Length of 4 arcs $= \frac{2}{} \times 3.14 \times \frac{20}{}$

$= 125.6$

Perimeter $= 125.6 + 16 + 16$

$= 157.6$

Ans: (c) $157.6$ cm [2]

End of Paper

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