



NANYANG PRIMARY SCHOOL  
SECOND SEMESTRAL EXAMINATION  
2006

PRIMARY 5  
MATHEMATICS

DURATION: 2 HOURS 15 MINUTES

Booklet A	/ 20
Booklet B	/ 30
	/ 50

Total:	/ 100
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Name: \_\_\_\_\_ ( )

Class: Primary 5 ( )

Date: 2 November 2006

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

ANSWER ALL QUESTIONS.

**Booklet A**

Questions 1 to 10 carry 1 mark each. Questions 11 to 15 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). Shade the oval (1, 2, 3 or 4) on the Optical Answer Sheet.

(20 marks)

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1 Find the value of  $144 - (63 + 9) \div 9 \times 4$ .

(1) 32

(2) 2

(3) 112

(4) 142

2 How many <sup>millilitres</sup> ~~millimetres~~ are there in 0.37l?

(1) 3700 ml

(2) 370 ml

(3) 37 ml

(4) 3.7 ml

3 A printing machine can print 85 pamphlets per minute. How many pamphlets can it print in 2 hours?

(1) 170

(2) 5100

(3) 10 200

(4) 17 000

4 Mrs Siva had  $\frac{9}{10}$  kg of flour. She used  $\frac{2}{3}$  of it to bake some muffins.  
How much flour had she left?

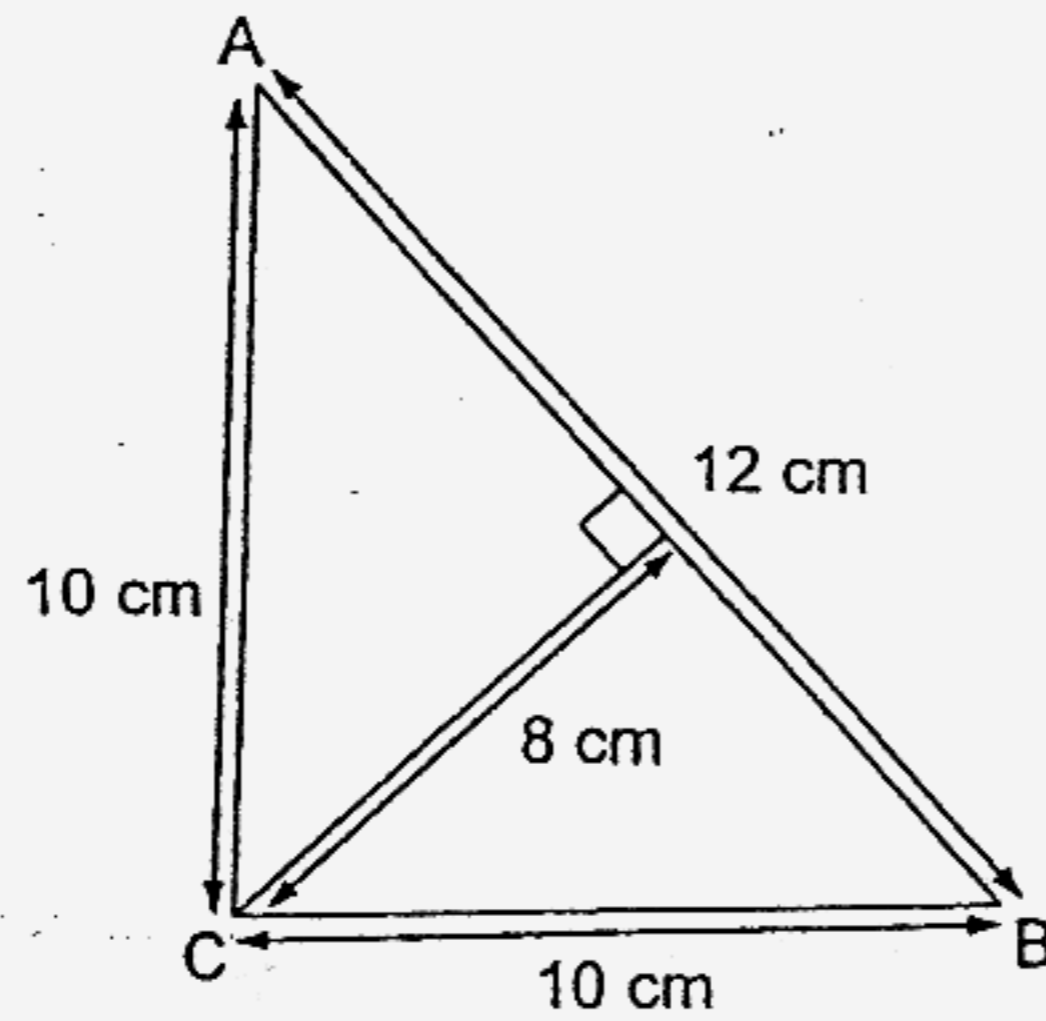
(1)  $\frac{7}{30}$  kg

(2)  $\frac{3}{10}$  kg

(3)  $\frac{2}{5}$  kg

(4)  $\frac{3}{5}$  kg

5 What is the area of Triangle ABC?



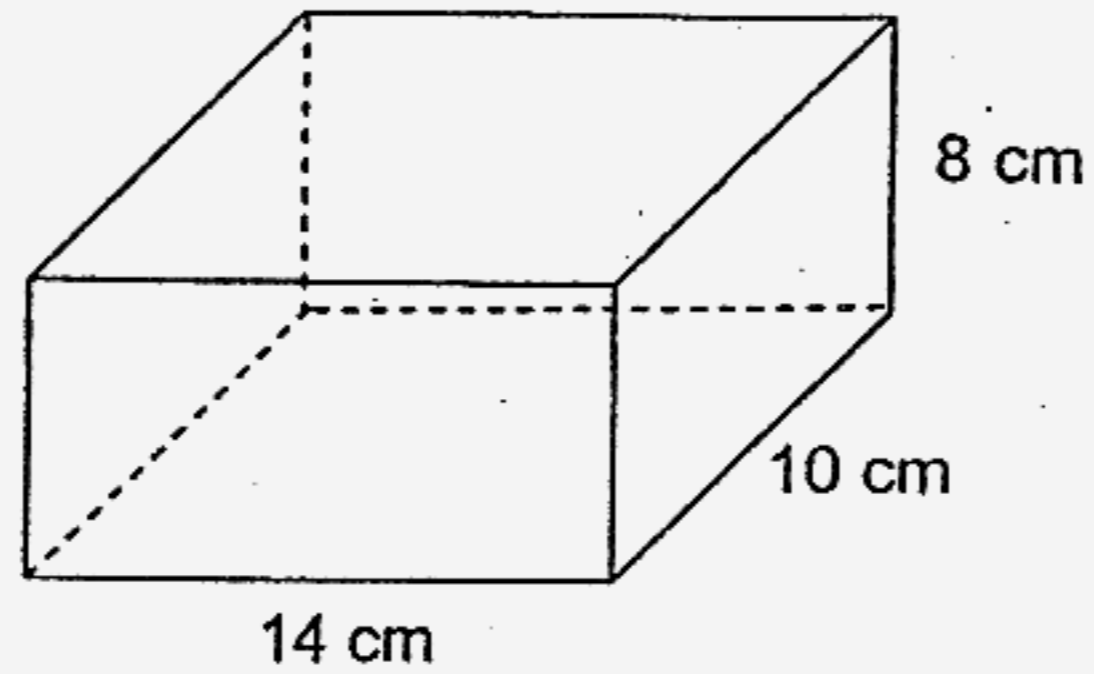
(1)  $40 \text{ cm}^2$

(2)  $48 \text{ cm}^2$

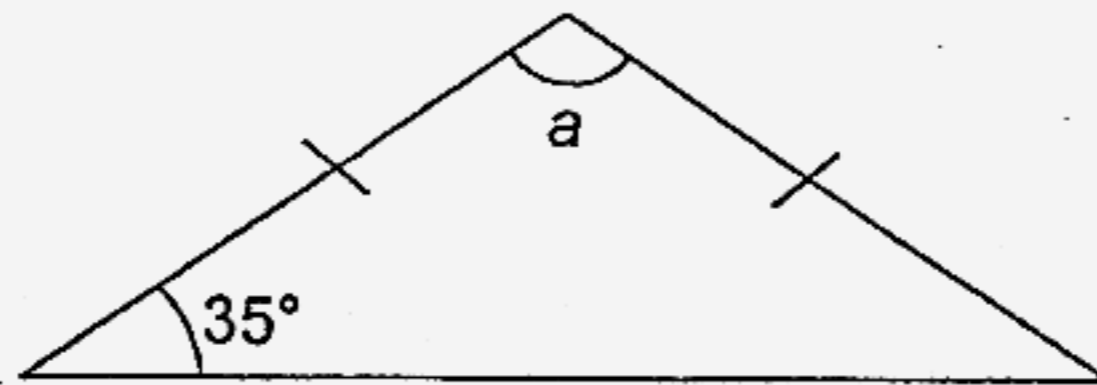
(3)  $50 \text{ cm}^2$

(4)  $60 \text{ cm}^2$

- 6 What is the volume of water needed to fill  $\frac{3}{5}$  of the empty tank below?

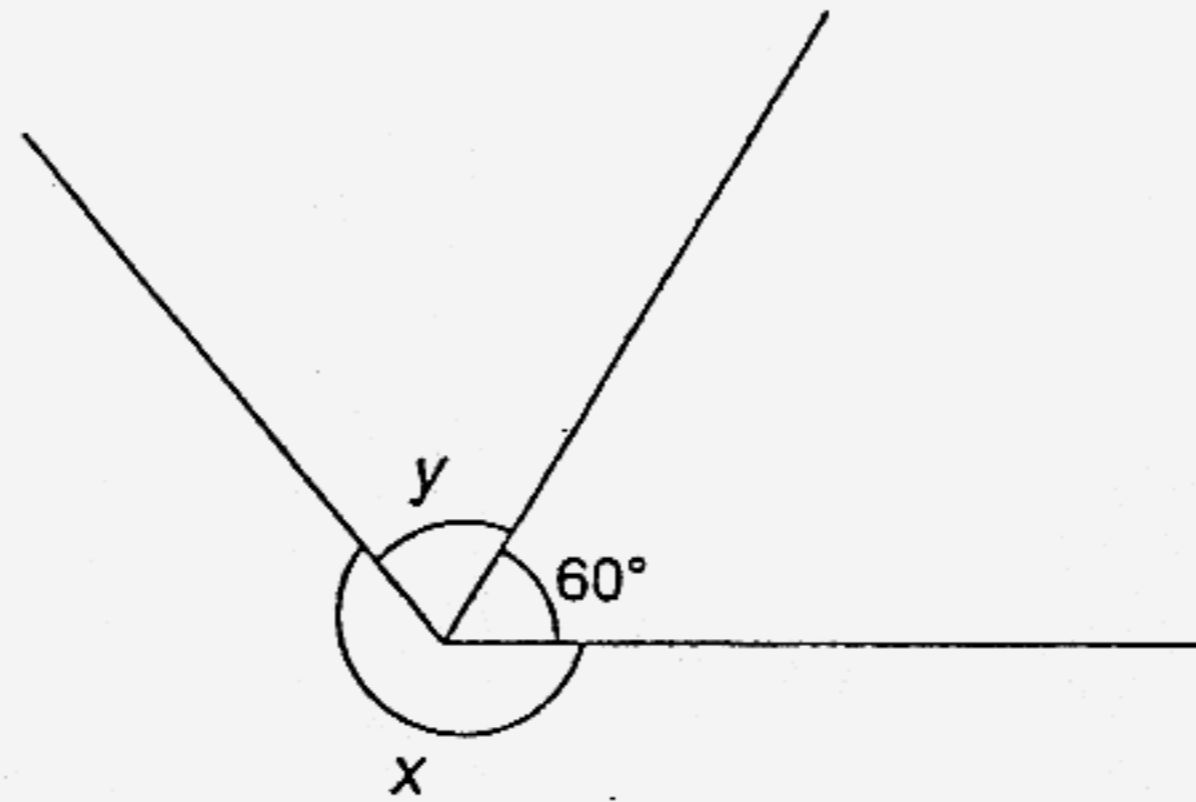


- (1) 224 cm<sup>3</sup>  
(2) 448 cm<sup>3</sup>  
(3) 672 cm<sup>3</sup>  
(4) 1120 cm<sup>3</sup>
- 7 In the triangle below, find  $\angle a$ .



- (1) 70°  
(2) 72.5°  
(3) 110°  
(4) 145°

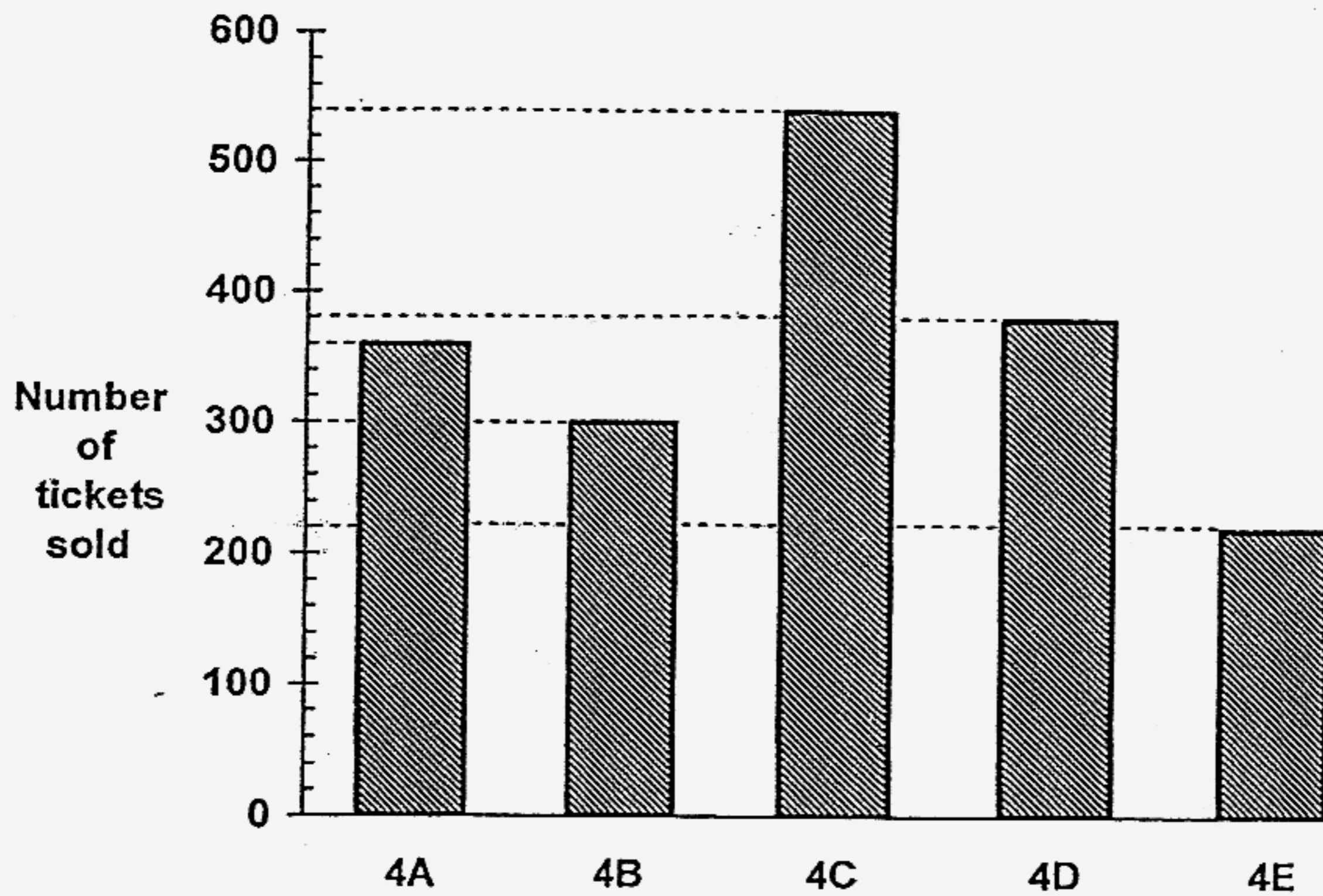
- 8 In the figure,  $\angle x$  is thrice of  $\angle y$ . Find  $\angle x$ .



- 1)  $75^\circ$   
(2)  $100^\circ$   
(3)  $225^\circ$   
(4)  $300^\circ$
- 9 Miss Rani sold 70% of her cookies and had 21 cookies left. How many cookies did she sell?

- 1) 70  
(2) 49  
(3) 28  
(4) 9

- 10 The graph below shows the number of funfair tickets sold by 5 classes.



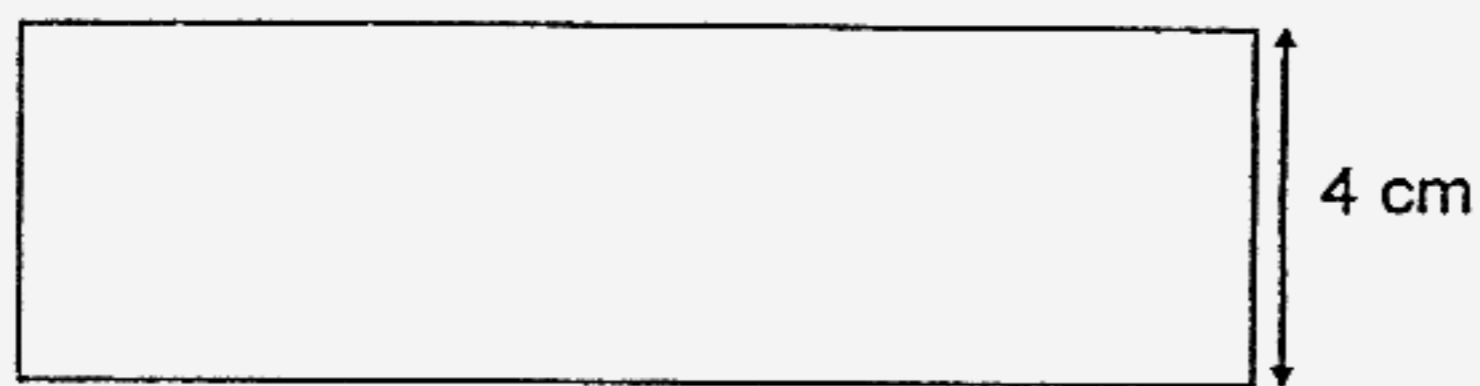
What is the largest difference in the number of funfair tickets sold by the 5 classes?

- (1) 160  
(2) 240  
(3) 320  
(4) 540
- 11 The average height of three girls is 138 cm and the average height of four boys is 145 cm. Find the average height of the seven children.
- (1) 141.5 cm  
(2) 142 cm  
(3) 283 cm  
(4) 994 cm

12 In a month with 30 days, there were 4 humid days for every 2 rainy days. How many humid days were there?

- (1) 5
- (2) 10
- (3) 20
- (4) 24

13 The figure shows a rectangle with an area of  $72 \text{ cm}^2$ .



What is the ratio of its length to its perimeter?

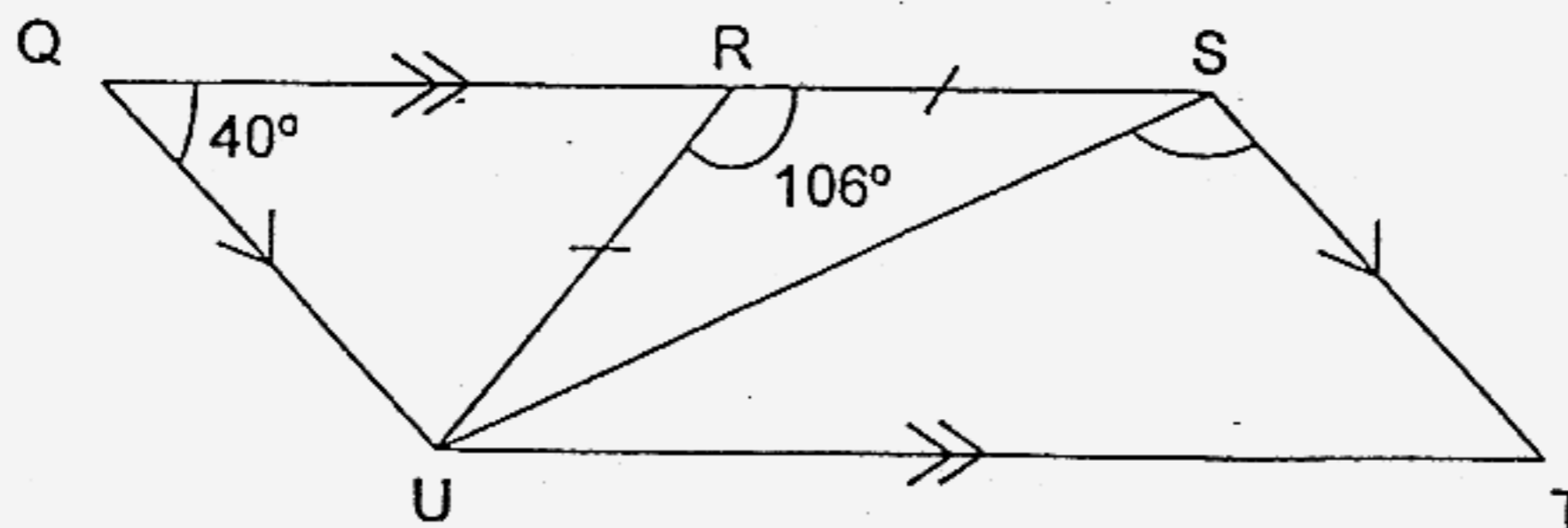
- (1) 1 : 4
- (2) 1 : 11
- (3) 9 : 11
- (4) 9 : 22

- 14 The table shows the taxi charges of a company.

Taxi Charges	
Starting Fee	\$2.50
First 2 kilometres	\$0.40
Every subsequent kilometre	\$0.15

Mr Lum travelled a distance of 22 km in a taxi. How much did he pay for the ride?

- (1) \$3.05  
 (2) \$3.40  
 (3) \$5.80  
 (4) \$5.90
- 15 In the figure, QSTU is a parallelogram and URS is an isosceles triangle. Find  $\angle UST$ .



- (1)  $37^\circ$   
 (2)  $77^\circ$   
 (3)  $103^\circ$   
 (4)  $114^\circ$



P5 SA2 2006

**Booklet B**

Questions 16 to 25 carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

(10 marks)

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16 How many hundreds are there in 703 000?

Ans: \_\_\_\_\_ hundreds

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17 What is the missing number in the box?

$$12 + \square \times 3 = 60$$

Ans: \_\_\_\_\_

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18 What is the missing number in the box?

$$\square : 12 = 63 : 54$$

Ans: \_\_\_\_\_

19 Find the value of  $28.4 \div 400$ .

Ans: \_\_\_\_\_

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20 The mass of a packet of rice is 2.5 kg. What is the mass of 99 such packets of rice?

Ans: \_\_\_\_\_ kg

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21 Three mangoes cost \$10.50. Find the cost of 45 such mangoes.

Ans: \$ \_\_\_\_\_

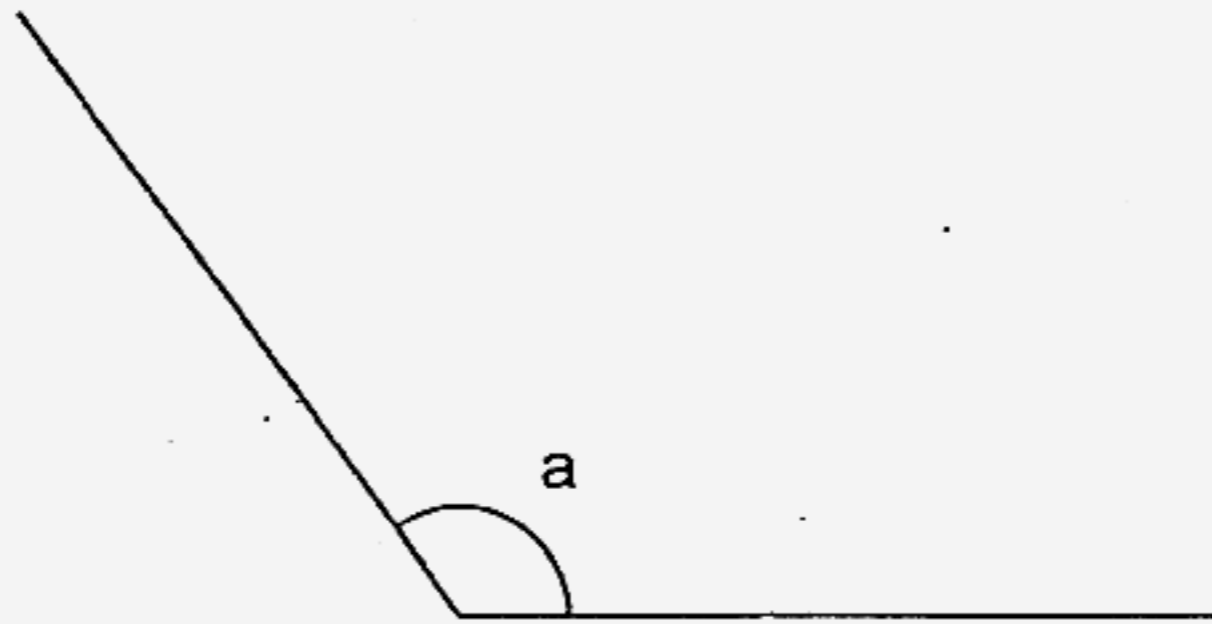
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22 Express  $\frac{3}{8}$  as a percentage.

Ans: \_\_\_\_\_ %

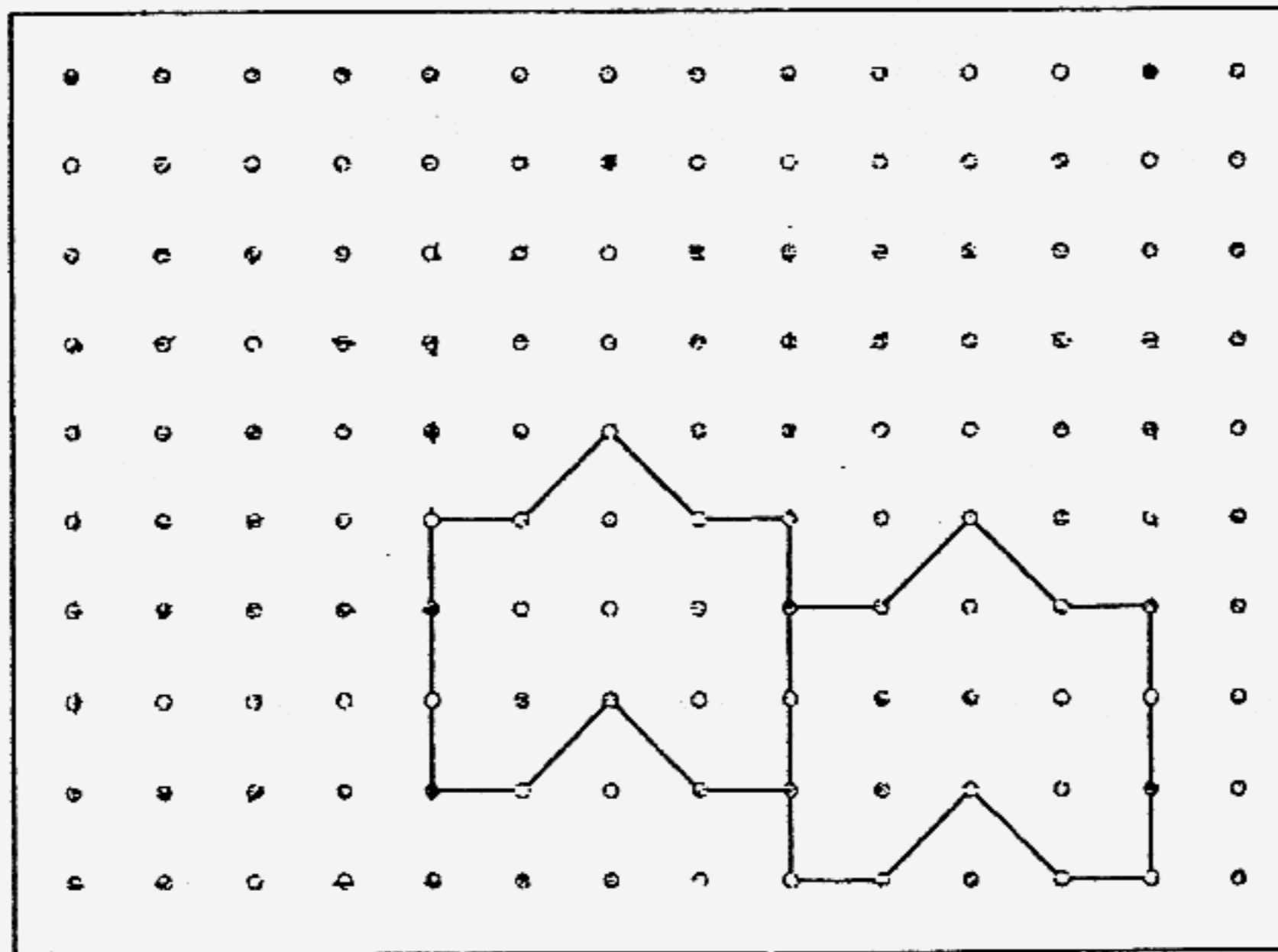
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23 Using a protractor, measure and write down the size of  $\angle a$ .

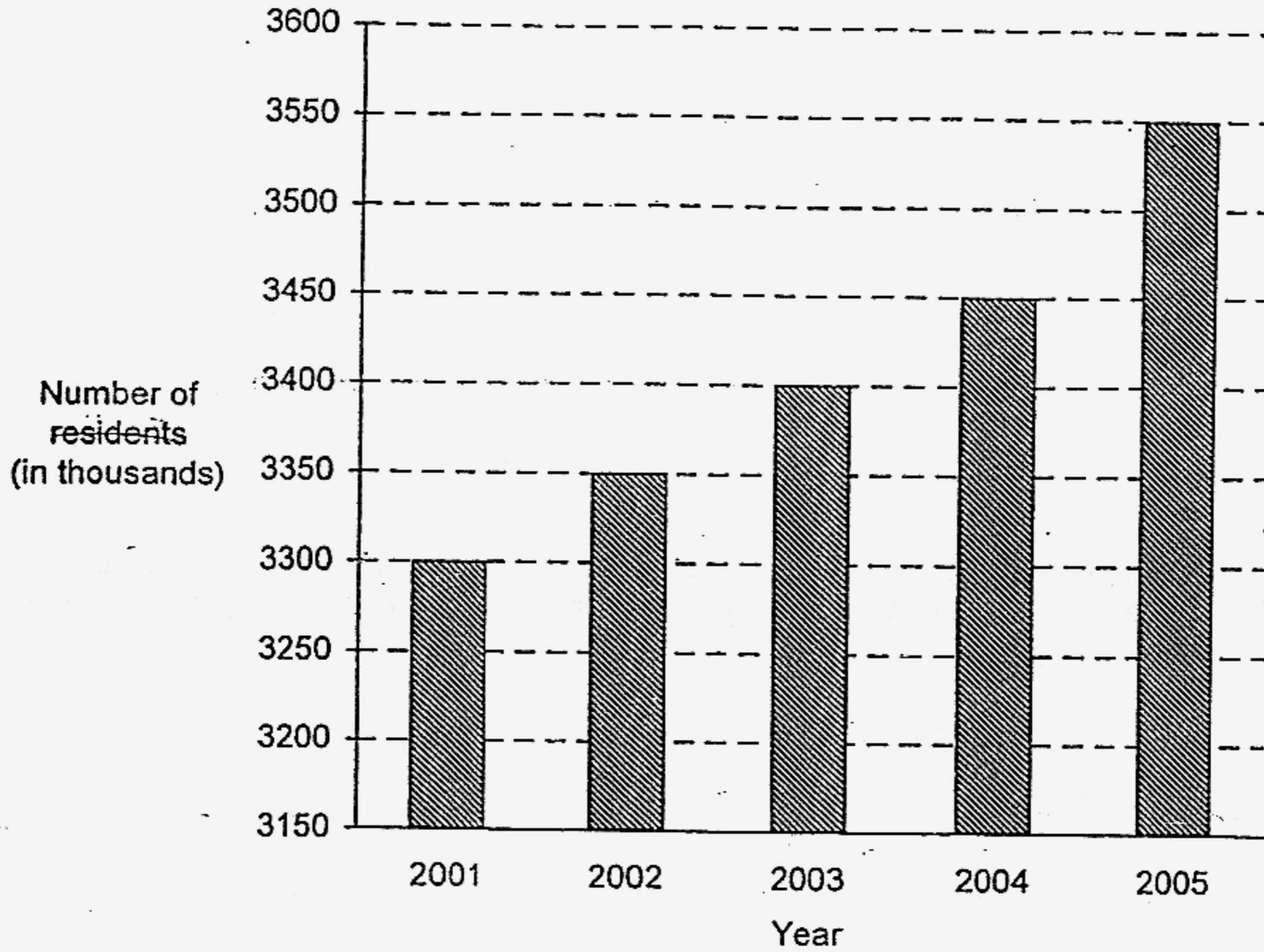


Ans: \_\_\_\_\_<sup>o</sup>

24 The pattern in the box shows part of a tessellation. Extend the tessellation by drawing **four** more unit shapes in the spaces provided in the box.



- 25 The graph below shows the number of Singapore residents from 2001 to 2005.



What was the increase in the number of Singapore residents from 2003 to 2005?

Ans: \_\_\_\_\_

Questions 26 to 35 carry 2 marks each. Show your working clearly in the space below each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

(20 marks)

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- 26 Alan had twice as many stickers as Bee Ling. Bee Ling had twice as many stickers as Calvin. If the 3 children had 350 stickers altogether, how many stickers did Bee Ling have?

Ans: \_\_\_\_\_

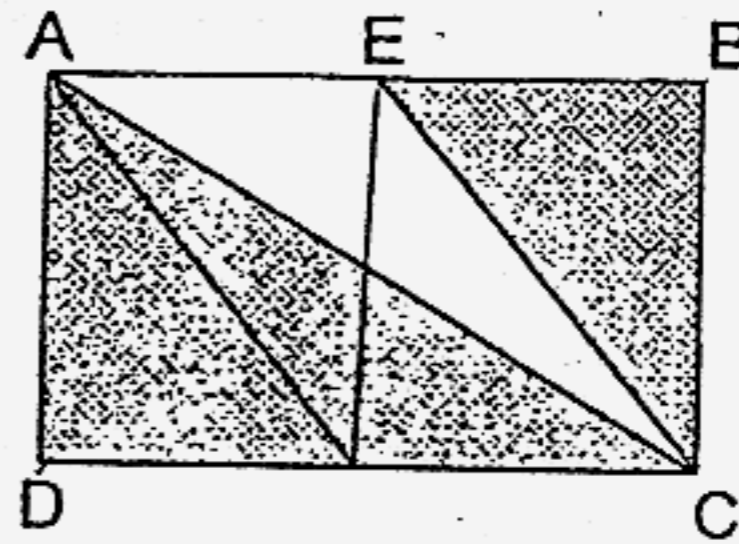
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- 27  $\frac{2}{3}$  of the fruit in a box are apples.  $\frac{1}{5}$  of the apples are green. What fraction of the fruit in the box are green apples?

Ans: \_\_\_\_\_

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- 28 ABCD is a rectangle. E is the mid-point of AB. What fraction of the rectangle is shaded?



Ans: \_\_\_\_\_

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- 29 The ratio of the number of bowls to the number of plates is 2 : 3. The number of cups is  $\frac{3}{10}$  the total number of bowls and plates. Find the ratio of the number of cups to the number of bowls to the number of plates.

Ans: \_\_\_\_\_

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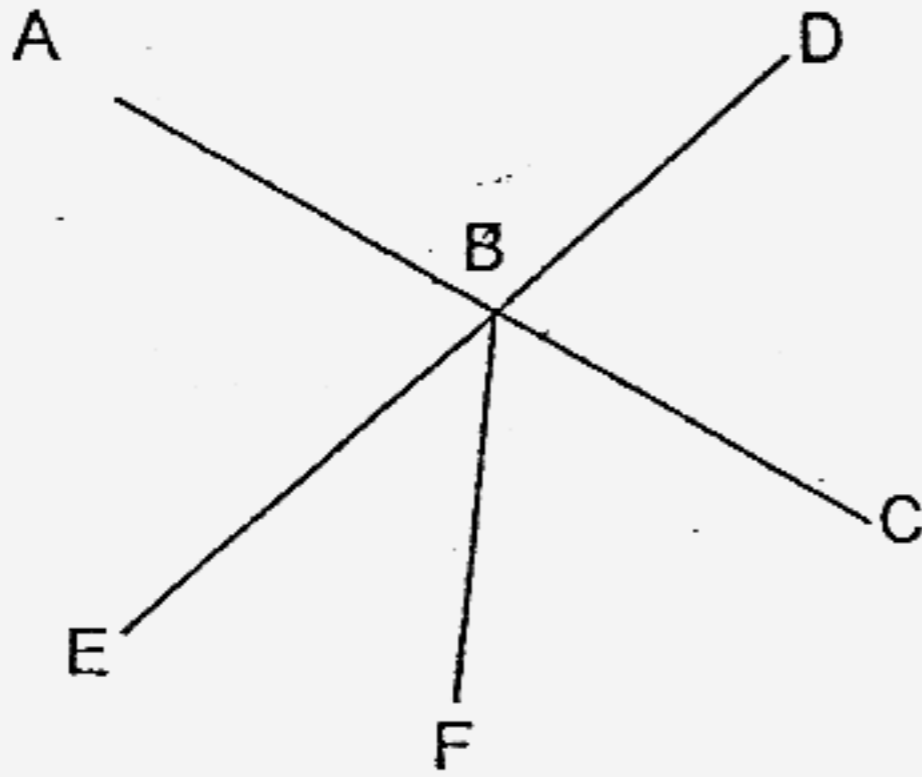
- 30 A box contained some roses and lilies. There are  $\frac{3}{7}$  as many roses as lilies. What percentage of the flowers in the box are lilies?

Ans: \_\_\_\_\_%

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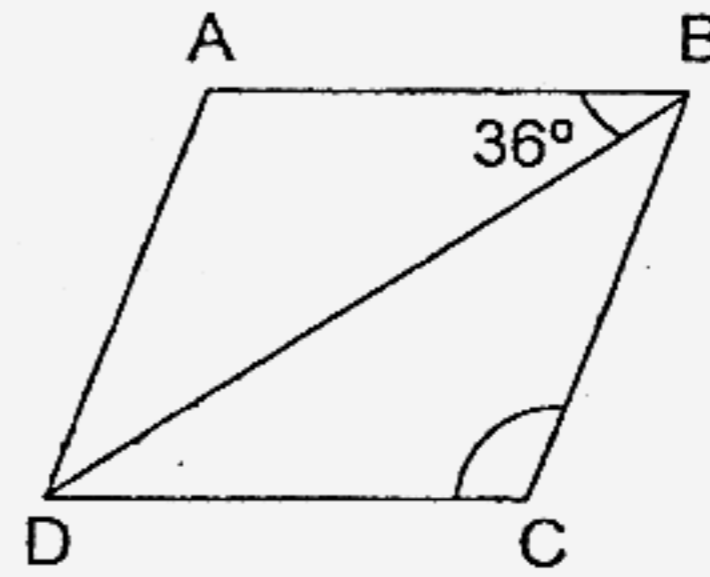
31 In the figure, AC, DE and BF are straight lines.

- (a) Mark out two angles in the figure which are of the same size.
- (b) Measure and write down the size of one of the marked angles.



Ans: (b) \_\_\_\_\_°

32 ABCD is a rhombus and  $\angle ABD = 36^\circ$ . Find  $\angle BCD$ .

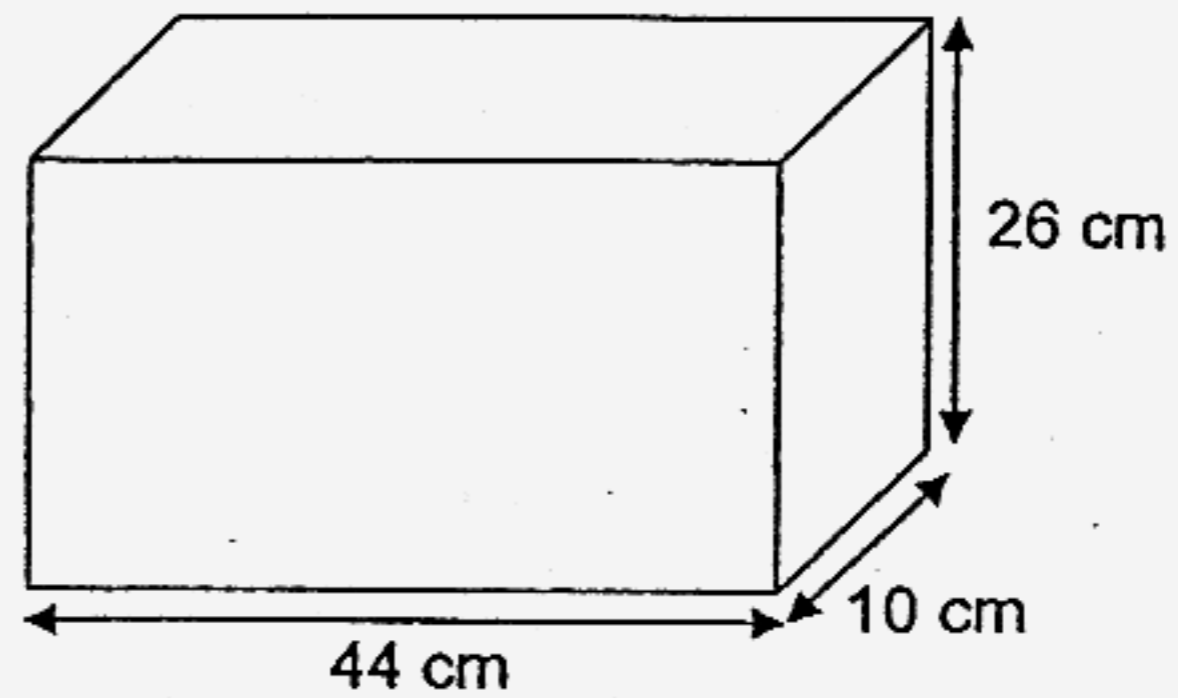


Ans: \_\_\_\_\_°

33 On Saturday and Sunday, Miss Yap and Mrs Tay spent a total of \$1280. What was the average spending of each person per day?

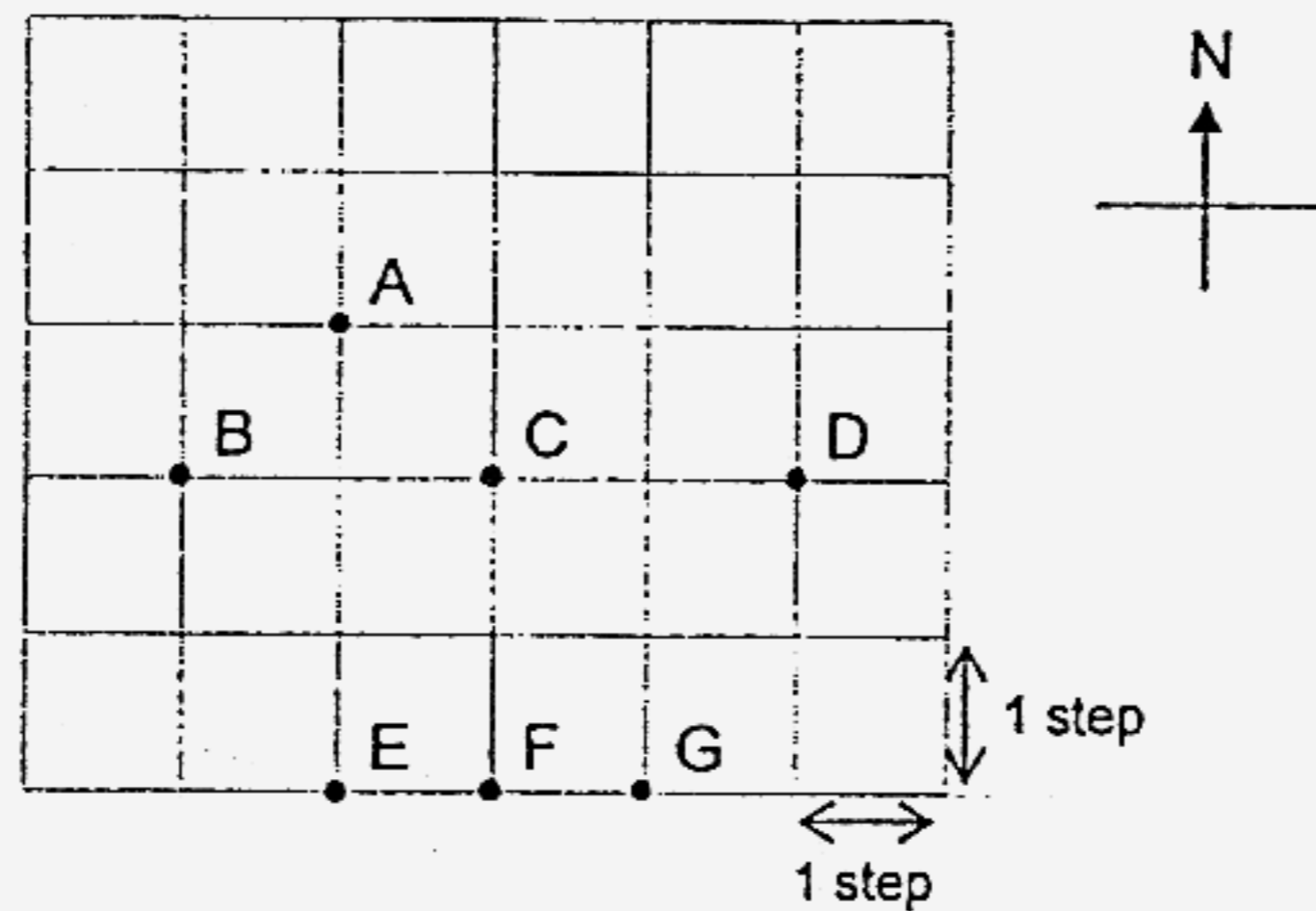
Ans: \$ \_\_\_\_\_

- 34 What is the maximum number of 3-cm cubes that can be cut from the block of wood shown below?



Ans: \_\_\_\_\_

- 35 The figure shows a grid. Ailing is standing at Point C. She is facing Point A.



- (a) Which point will she face when she turns  $135^\circ$  anti-clockwise?
- (b) If Ailing moves 1 step to the east and then 2 steps to the south, at which point would she be?

Ans: (a) \_\_\_\_\_

(b) \_\_\_\_\_



P5 SA2 2006

For questions 36 to 48, show your working clearly in the space provided for each question and write your answers in the spaces provided.

The number of marks available is shown in brackets [ ] at the end of each question or part-question.

(50 marks)

- 
- 36 Mr Lim uses \$2000 to buy thumbdrives which cost \$85 each. How much more money does he need to buy one more thumbdrive?

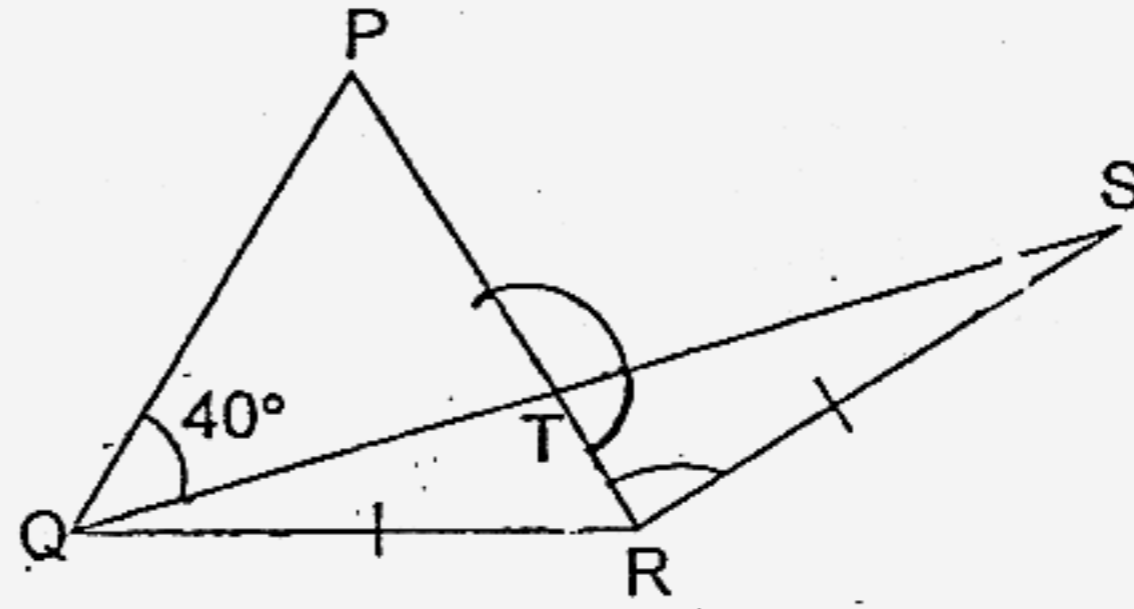
Ans: \_\_\_\_\_ [3]

- 
- 37 A seamstress bought 500 m of cloth at \$2.50 per metre. If each metre of cloth cost \$0.50 less, how much more cloth could she buy with the same amount of money?

Ans: \_\_\_\_\_ [3]

38 In the figure, PQR is an equilateral triangle, QR = RS and QS and PR are straight lines. Find

- (a)  $\angle PTS$
- (b)  $\angle QRS$ .



Ans: (a) \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [2]

39 Matchsticks are used to form the following figures in a pattern.



Figure 1  
3 matchsticks



Figure 2  
5 matchsticks

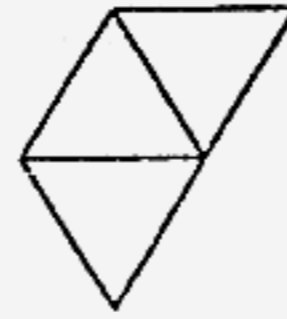


Figure 3  
7 matchsticks

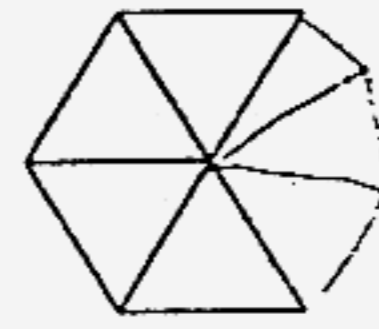


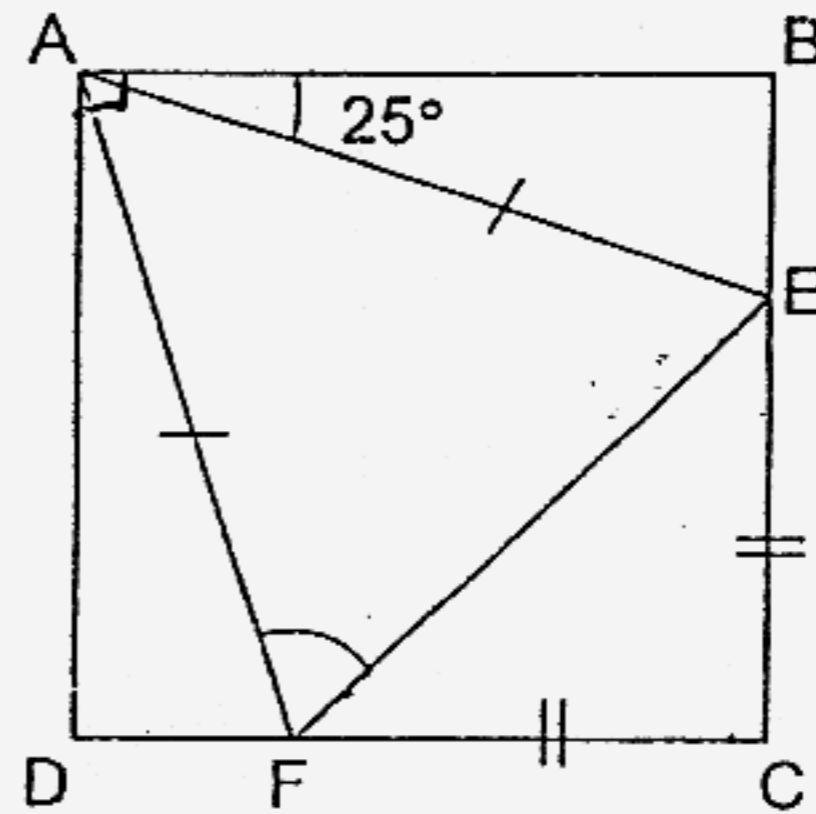
Figure 4  
9 matchsticks

- (a) How many matchsticks are needed to form Figure 9?
- (b) Which figure is formed using 265 matchsticks?

(a) \_\_\_\_\_ [1]

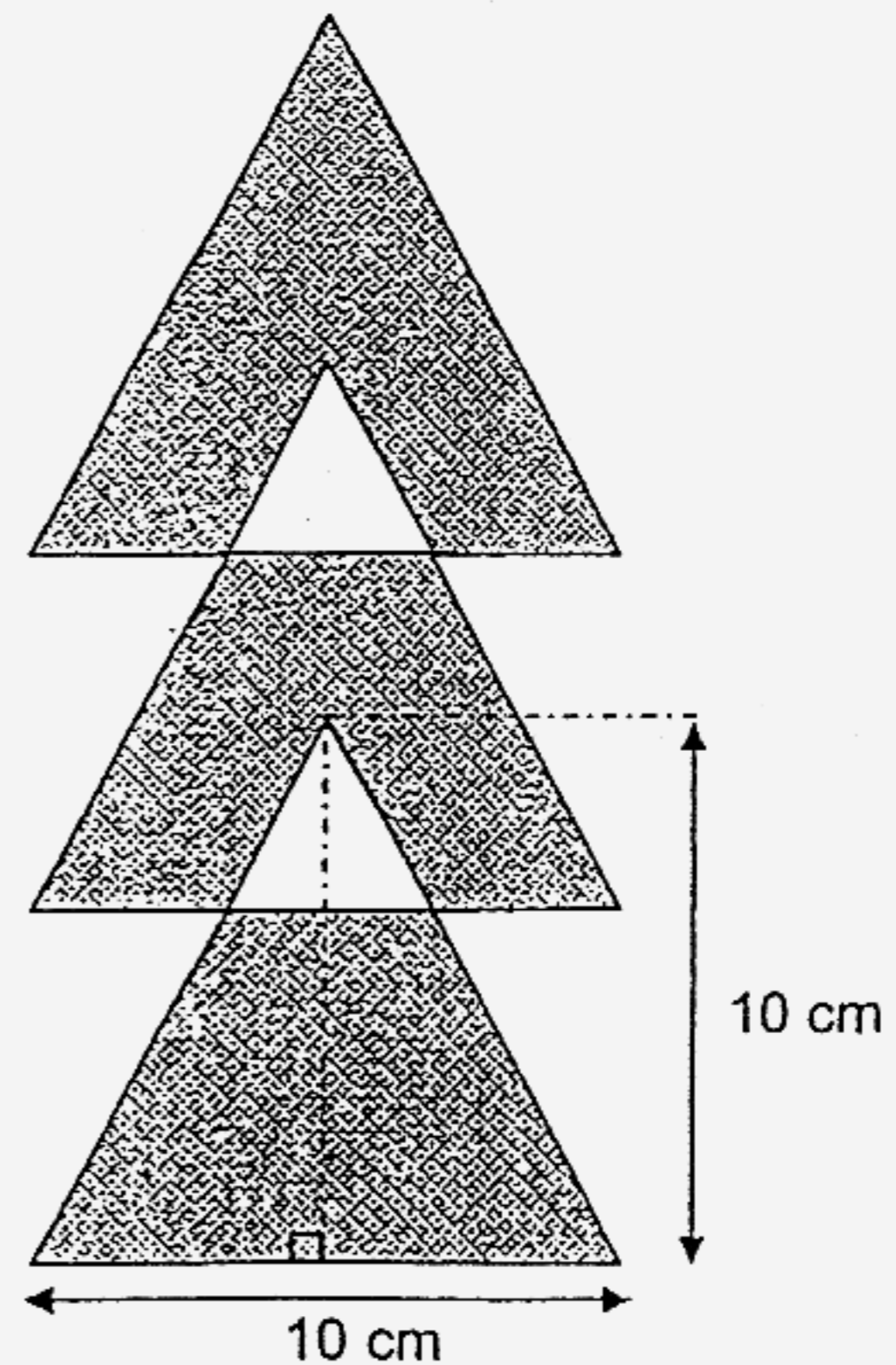
(b) Figure \_\_\_\_\_ [2]

- 40 In the figure which is not drawn to scale, ABCD is a square. AEF and CEF are isosceles triangles and  $\angle BAE = 25^\circ$ . Find  $\angle AFE$ .



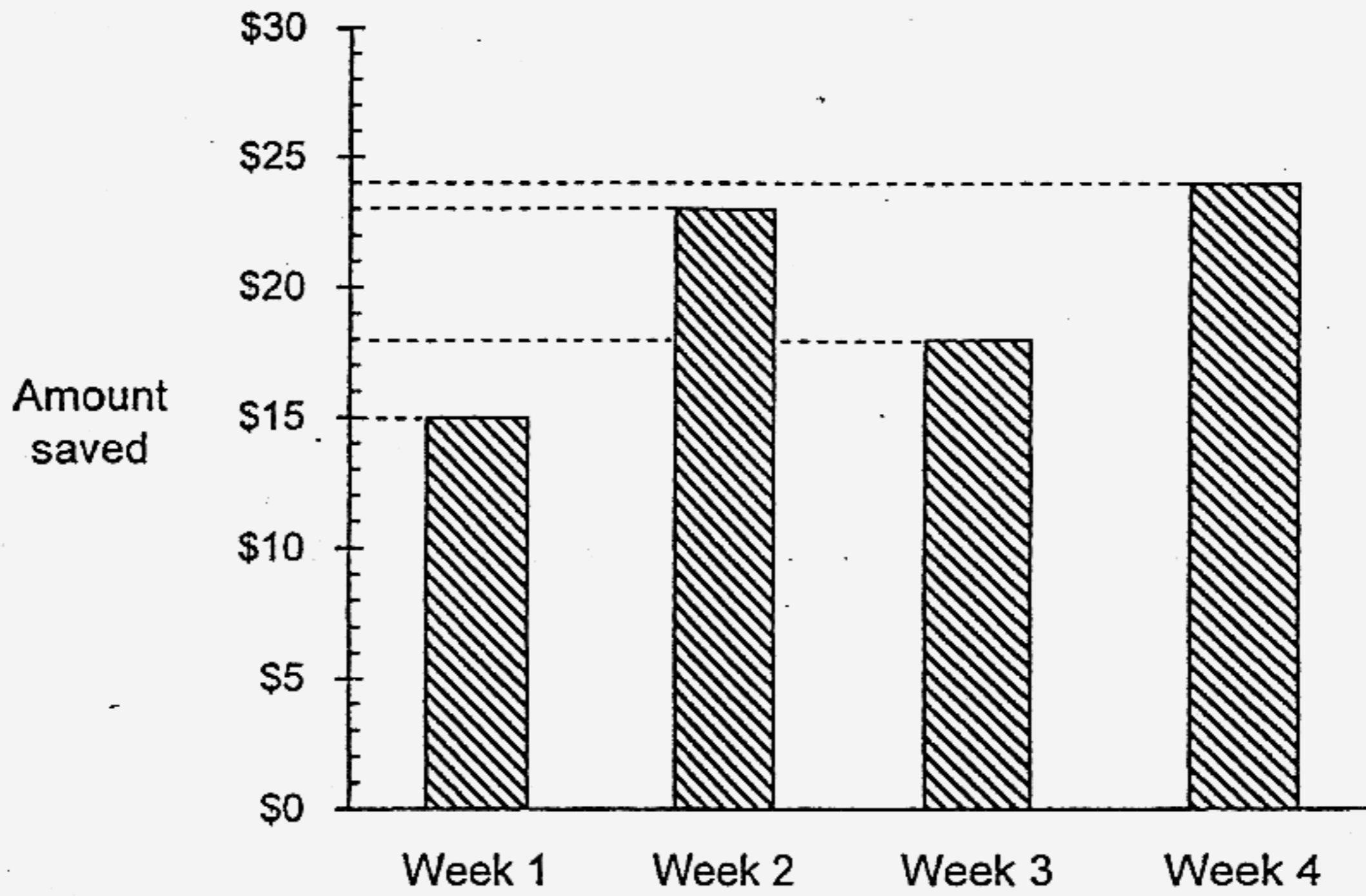
Ans: \_\_\_\_\_ [3]

- 41 The figure, not drawn to scale, is made up of 3 identical big triangles. The total area of the shaded part is  $118 \text{ cm}^2$ . The unshaded triangles have an equal area. Find the area of each unshaded triangle.



Ans: \_\_\_\_\_ [3]

- 42 Emily was given \$50 of pocket money weekly. The graph shows the amount of money she saved per week in 4 weeks.



- (a) In which week did Emily spend the most amount of money?  
(b) Find the average amount of money she spent per week.

Ans: (a) Week \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [3]

- 43 Ken had \$20 more than Mingli at first. After Ken had given  $\frac{1}{5}$  of his money to Mingli, Mingli had \$64. How much did Mingli have at first?

Ans: \_\_\_\_\_ [4]

- 44 There were 36 buttons in a box.  $\frac{5}{9}$  of them were round and the rest were oval. When some round buttons were used, the ratio of the number of round buttons left to the number of oval buttons in the box was 1 : 2. What percentage of the round buttons were used?

Ans: \_\_\_\_\_ [4]

45  $\frac{1}{6}$  of A is equal to  $\frac{5}{9}$  of B.  $\frac{2}{5}$  of A is 270 more than  $\frac{1}{3}$  of B.

- (a) Find the ratio of the value of A to the value of B. Give your answer in its simplest form.
- (b) What is the total value of A and B?

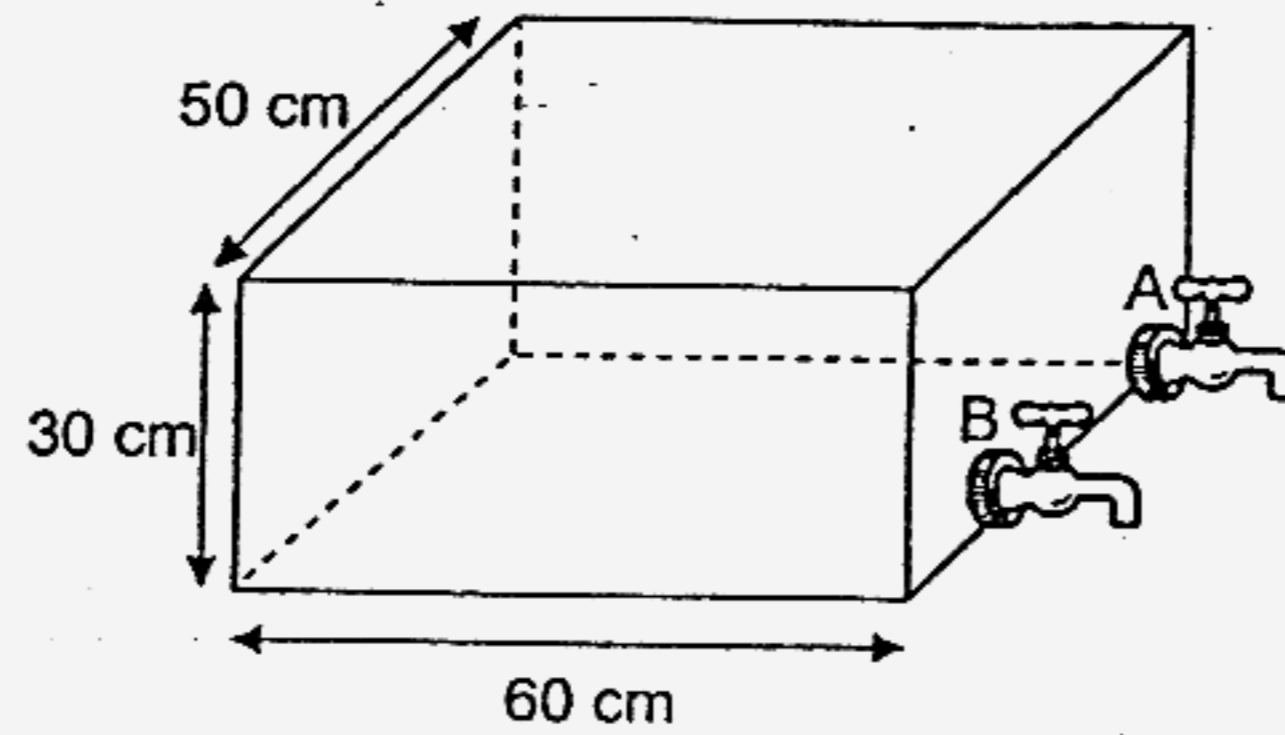
Ans: (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [3]

- 46 Three girls shared a sum of money. Cathy received \$180 more than Betty. The total amount Betty and Cathy received was 3 times the amount Alice received. The amount Alice and Cathy received was 5 times the amount Betty received. What was the sum of money shared by the three girls?

Ans: \_\_\_\_\_ [5]

- 47 A rectangular tank 60 cm by 50 cm by 30 cm was filled to its brim with water. Tap A, which drained water out from the tank at 3 litres per minute was turned on. After 10 minutes, Tap B, which drained water out at 2 litres per minute, was also turned on. How long did it take for all the water to be drained out of the tank completely?



Ans: \_\_\_\_\_ [5]



- 48 Beng Lee and Wen Cong had some stamps. If Beng Lee gave 50% of his stamps to Wen Cong, Wen Cong would have 128 more stamps than Beng Lee. If Beng Lee gave 25% of his stamps to Wen Cong, Wen Cong would have 68 more stamps than Beng Lee. How many stamps did the two boys have altogether?

Ans: \_\_\_\_\_ [5]

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END OF PAPER



$$28. \quad \frac{4}{4} - \frac{1}{4} = \frac{3}{4}$$

$$30. \quad \begin{aligned} 10u &= 100\% \\ 7u &= 70\% \end{aligned}$$

$$32. \quad \begin{aligned} \angle ABC &= 36 \times 2 \\ &= 72^\circ \\ \angle BCD &= 180^\circ - 72^\circ \\ &= 108^\circ \end{aligned}$$

$$34. \quad \begin{aligned} 26 \div 3 &= 8 \text{ r}2 \\ 10 \div 3 &= 3 \text{ r}1 \\ 44 \div 3 &= 14 \text{ r}2 \\ 14 \times 3 \times 8 &= 42 \times 8 \\ &= 336\text{cm}^3 \end{aligned}$$

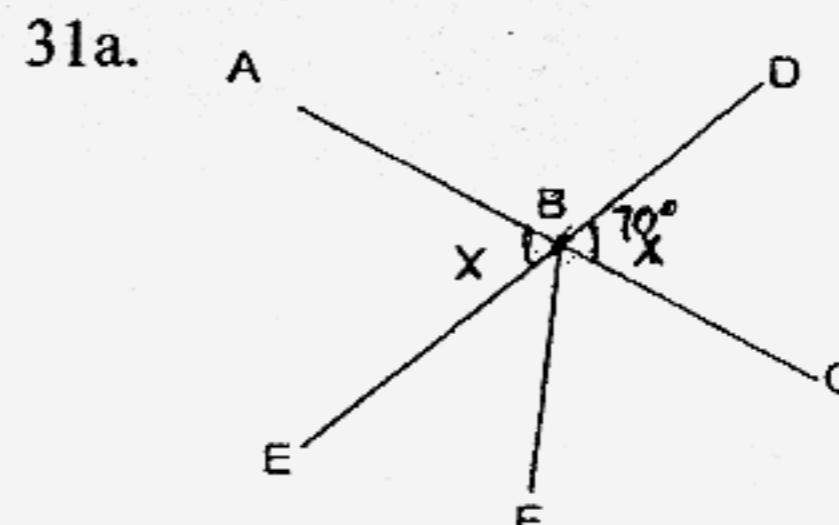
$$36. \quad \begin{aligned} 1 \text{ thumbdrive} &= \$85.00 \\ 23 \text{ thumbdrives} &= \$85 \times 23 \\ &= \$1955 \\ \$(2000 - 1955) &= \$45 \\ \$(45 + 40) &= \$85 \end{aligned}$$

He needs another **\$40** to buy 1 more thumbdrive.

$$37. \quad \begin{aligned} 500\text{m} &= \$2.50 \\ &= \$2.50 \times 500 \\ &= \$1250 \\ 500\text{m} &= 2.00 \times 500 \\ &= \$1000 \\ \$(1250 - 1000) &= \$250 \\ \$250 \times 500 &= \underline{\underline{125\text{m}}} \end{aligned}$$

She can buy **125m** of cloth

$$29. \quad \begin{array}{lcl} \text{Bowls} & : & \text{Plates} & : & \text{Cups} \\ 2 & : & 3 & & \\ 3 & : & 4 & : & 6 \end{array}$$



$$31b. \quad \angle b = 70^\circ$$

$$33. \quad \begin{aligned} \$1280 \div 4 \\ = \$320 \end{aligned}$$

$$\begin{aligned} 35a. & \text{ F} \\ 35b. & \text{ G} \end{aligned}$$

$$\begin{aligned}
38. \quad \angle SQR &= 60^\circ - 40^\circ \\
&= 20^\circ \\
\angle QRS &= 180^\circ - 20^\circ - 20^\circ \\
&= 140^\circ \\
\angle QTP &= 180^\circ - 60^\circ - 40^\circ \\
&= 80^\circ \\
\angle PTS &= 180^\circ - 80^\circ = 100^\circ
\end{aligned}$$

39. Figure	1	2	3	4	6	9
No. of Matchstick	3	5	7	9	13	19

a)  $3 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 = 19$

b)  $265 - 3 = 262$   
 $262 \div 2 = 131$   
 $131 + 1 = 132$

$$\begin{aligned}
40. \quad \angle AEB &= (180^\circ - 25^\circ - 90^\circ) = 65^\circ \\
\angle FEG &= (180^\circ - 90^\circ) \div 2 = 45^\circ \\
\angle AEF &= 180^\circ - (65^\circ + 45^\circ) = 70^\circ \\
\angle AFE &= 70^\circ \text{ (isos } \Delta)
\end{aligned}$$

$$\begin{aligned}
41. \quad \text{Area of } 3 \Delta &= \left(\frac{1}{2} \times 10 \times 10\right) \times 3 \\
&= 150\text{cm}^2
\end{aligned}$$

$$\text{Area of shaded part} = 118\text{cm}^2$$

$$\begin{aligned}
\text{Area of unshaded part} &= (150 - 118)\text{cm}^2 \\
&= 32\text{cm}^2 \div 2 \\
&= 16\text{cm}^2
\end{aligned}$$

Each unshaded triangle is  $16\text{cm}^2$

42a. Week 1

42b.  $\$(35 + 27 + 32 + 26) = \$120$   
 $\$120 \div 4 = \$30.00$

43

K	;	M
$80 \div 5$		$64 - 16$
$= 16$		$= 48$
$70 \div 5$		
$= 14$		
$64 - 14 =$		$\$50.00$

Mingli has **\\$50.00** at first.

44.

$9u =$	$36$
$5u =$	$20$
$3u =$	$12$
$20 =$	$100\%$
$12 =$	$60\%$

**60%** of round buttons were used.

45a.

$\frac{1}{3} =$	$\frac{3}{9}$
$\frac{2}{5} =$	$\frac{12}{30}$

$9u =$	$270$
$30u =$	$900$
$=$	$900 : 270$
	$10 : 3$

The ratio of value A to value B is **10 : 3**

45b.  $900 + 270 = 1170$

The total value of A and B is **1170**

$$46. \quad \begin{array}{l} \text{Betty} + (\text{Cathy} + \$180) = 3 \text{ times } x 5 \\ \text{Alice} + \text{Cathy} = 5 \text{ times } x 3 \end{array}$$

$$\text{Betty} = \frac{\text{Alice} + \text{Cathy}}{3}$$

$$\text{Alice} = \frac{\text{Betty} + \text{Cathy}}{5}$$

Common factor is 15

$$15 \times 16.8 = 252$$

$$252 - 180 = 72$$

$$(252 + 7) \div 3 = 108$$

$$$(252 + 72 + 108) = \$432$$$

$$47. \quad \begin{array}{l} 60 \times 50 \times 30 = 90000\text{cm}^3 = 90\ell \\ 1 \text{ min} = 3\ell \\ 10 \text{ mins} = 30\ell \\ 90\ell - 30\ell = 60\ell \\ 1 \text{ min} = 3 + 2 \\ = 5\ell \\ 60 \div 5 = 12 \\ = 12 + 10 \\ = 22 \text{ mins} \end{array}$$

It takes **22 mins** for all the water to be drained out of the tank completely.

$$48. \quad \begin{array}{l} 50\% = 128 - 68 \\ = 60 \\ 100\% = 60 \times 2 \\ = 120 \end{array}$$

$$120 + 8 = 128$$

$$68 - 60 = 8$$

$$120 + 128 = 248$$

The two boys have **248 stamps** altogether.