

--	--	--	--	--	--



ANGLO-CHINESE SCHOOL (JUNIOR)
ANGLO-CHINESE SCHOOL (PRIMARY)

PRIMARY 6
COMBINED PRELIMINARY EXAMINATION
2006

MATHEMATICS

Booklet A

Name: _____ ()

Class: Primary 6. _

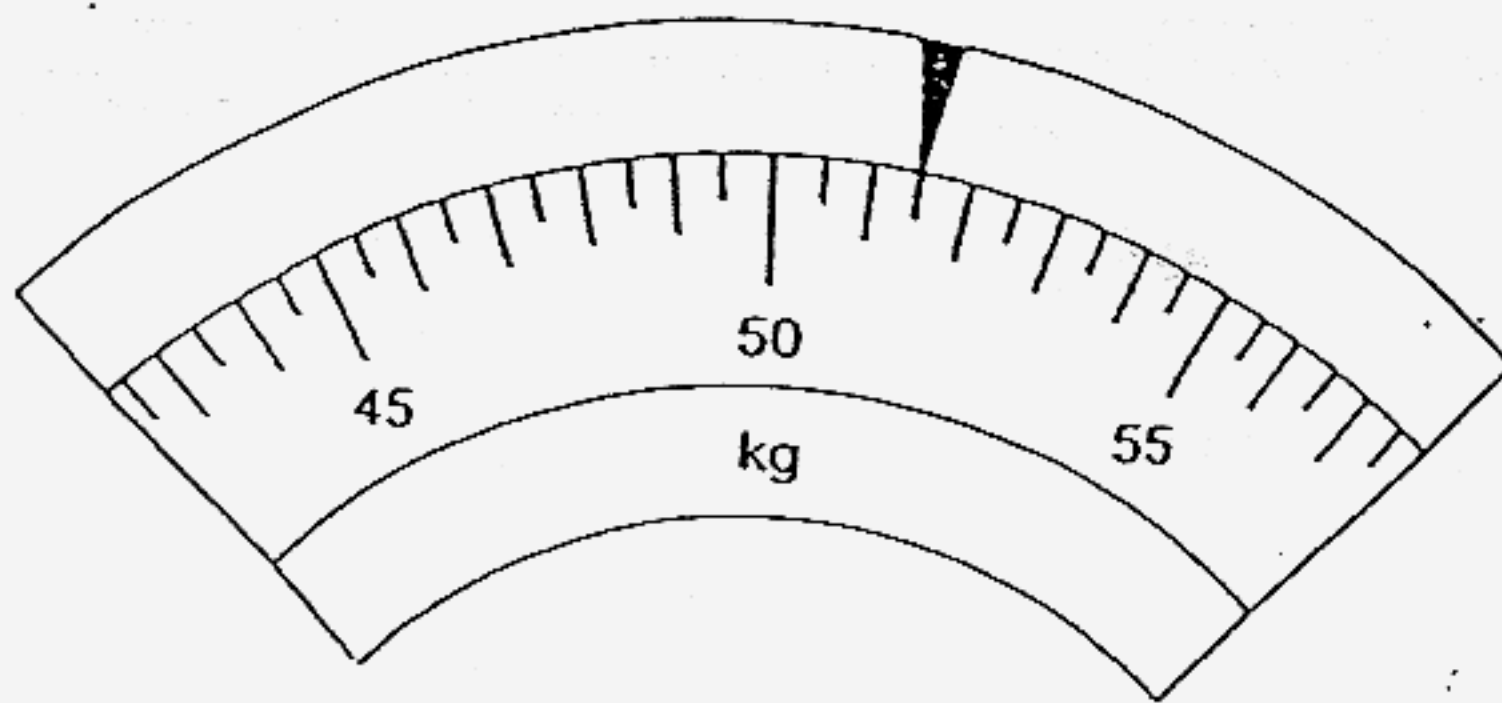
Date: 24 August 2006

Total Time for Booklets A & B: 2 h15 min

THIS BOOKLET CONTAINS PAGE 1 to 5.
DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.

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 correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.
(20 marks)

1 What is the reading indicated in the weighing scale below?



- (1) 50.15 kg
- (2) 50.3 kg
- (3) 51.5 kg
- (4) 53 kg

2 Look at your desk. Which is the best estimate of its height?

- (1) 7 m
- (2) 70 m
- (3) 7 cm
- (4) 70 cm

3 The cost of 100 g of mushrooms is \$6. What is the cost of $\frac{1}{2}$ kg of mushrooms?

- (1) \$300
- (2) \$30
- (3) \$3
- (4) \$1.20

4 A bag and a wallet cost \$120. The cost of the wallet is 60% of the cost of the bag. How much does the bag cost?

- (1) \$48
- (2) \$75
- (3) \$80
- (4) \$200

5 The ratio of A to B is 2 : 5 and the ratio of B to C is 2 : 7. Find the ratio of A : B : C.

- (1) 2 : 2 : 7
- (2) 2 : 5 : 7
- (3) 2 : 10 : 7
- (4) 4 : 10 : 35

6 The average of 3 numbers is $3m$. One of the numbers is m and another number is 3. Express the third number in terms of m in the simplest form.

- (1) $5m$
- (2) $6m$
- (3) $8m - 3$
- (4) $9m - 3$

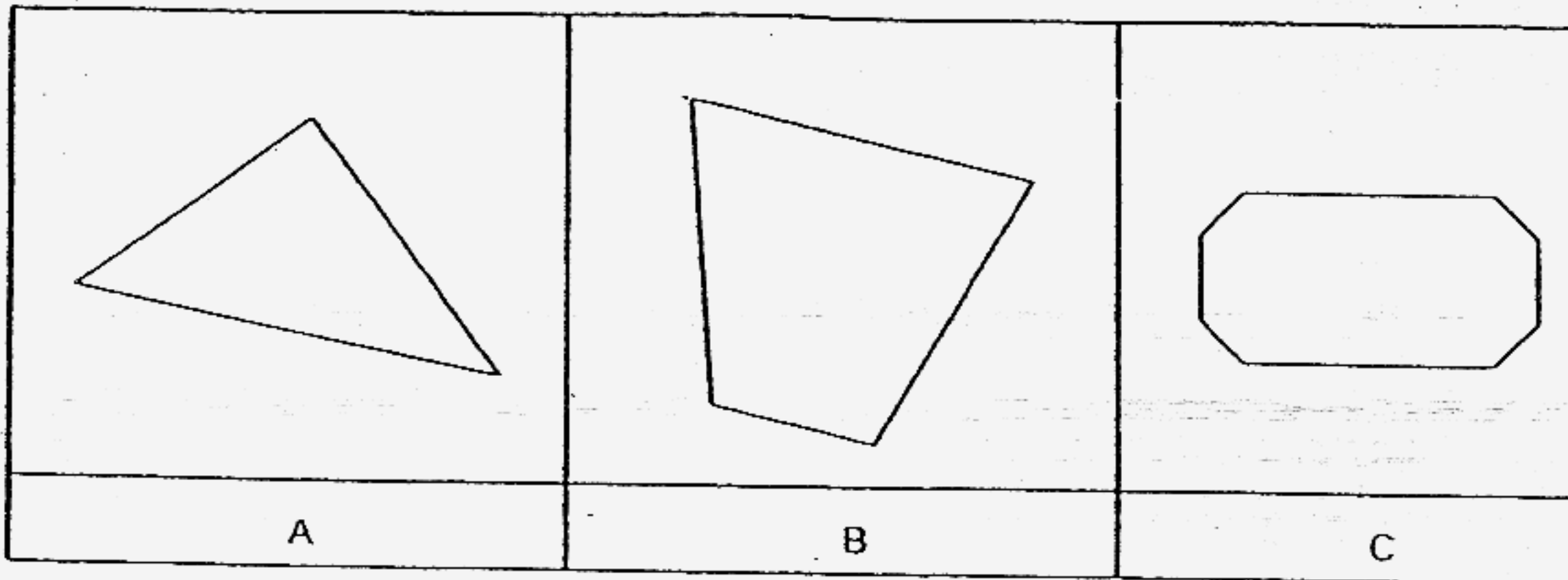
7 Which one of the following has the same value as $1 + \frac{3}{50}$?

- (1) 1.03
- (2) 1.06
- (3) 1.3
- (4) 1.6

8 Eight hundred and five thousand, three hundred and fifty-eight written in numerals is _____

- (1) 85 358
- (2) 805 358
- (3) 850 358
- (4) 8 005 358

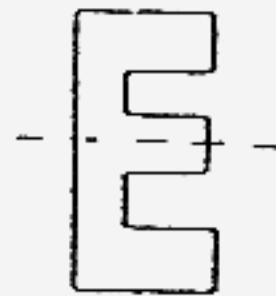
- 9 Mr Lee wants to tile his bathroom floor with tiles of only one shape and they must fit together with no gaps in between. Which of these shapes can he choose from?



- (1) A only
(2) A and B only
(3) A and C only
(4) A, B and C
- 10 Which of the figure below does not have a line of symmetry?



(1)



(2)



(3)



(4)

- 11 In a country club there are 400 members, there are 160 women and the rest are men. How many percent more men than women are there in the country club?

- (1) 20%
(2) 30%
(3) 50%
(4) 60%

12 A motorist travelled at an average speed of 56 km/h for 3 hours and then at 60 km/h for $1\frac{1}{2}$ hours. What is the total distance travelled?

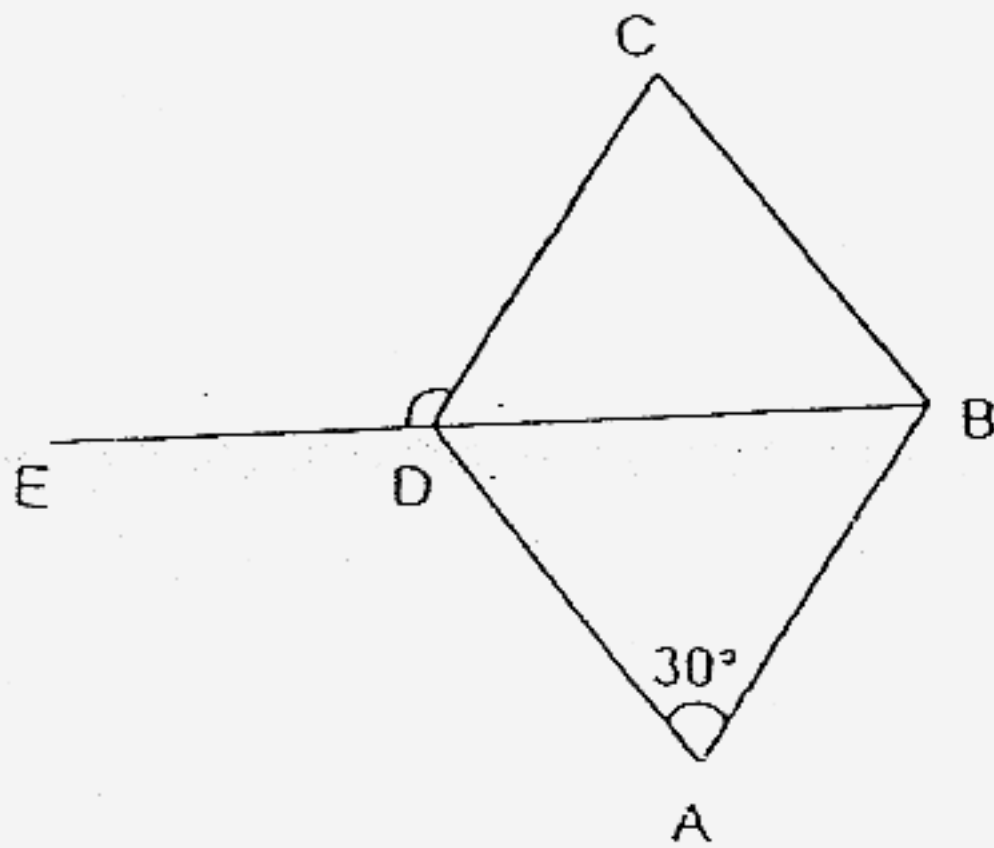
- (1) 90 km
- (2) 168 km
- (3) 258 km
- (4) 522 km

13 In the programme guide below, one programme leads to another without any break in between. How much longer is the sports programme than the cartoon programme?

<u>Time</u>	<u>Programme</u>
9.20 a.m.	Cartoon
9.50 a.m.	Sports
10.30 a.m.	News

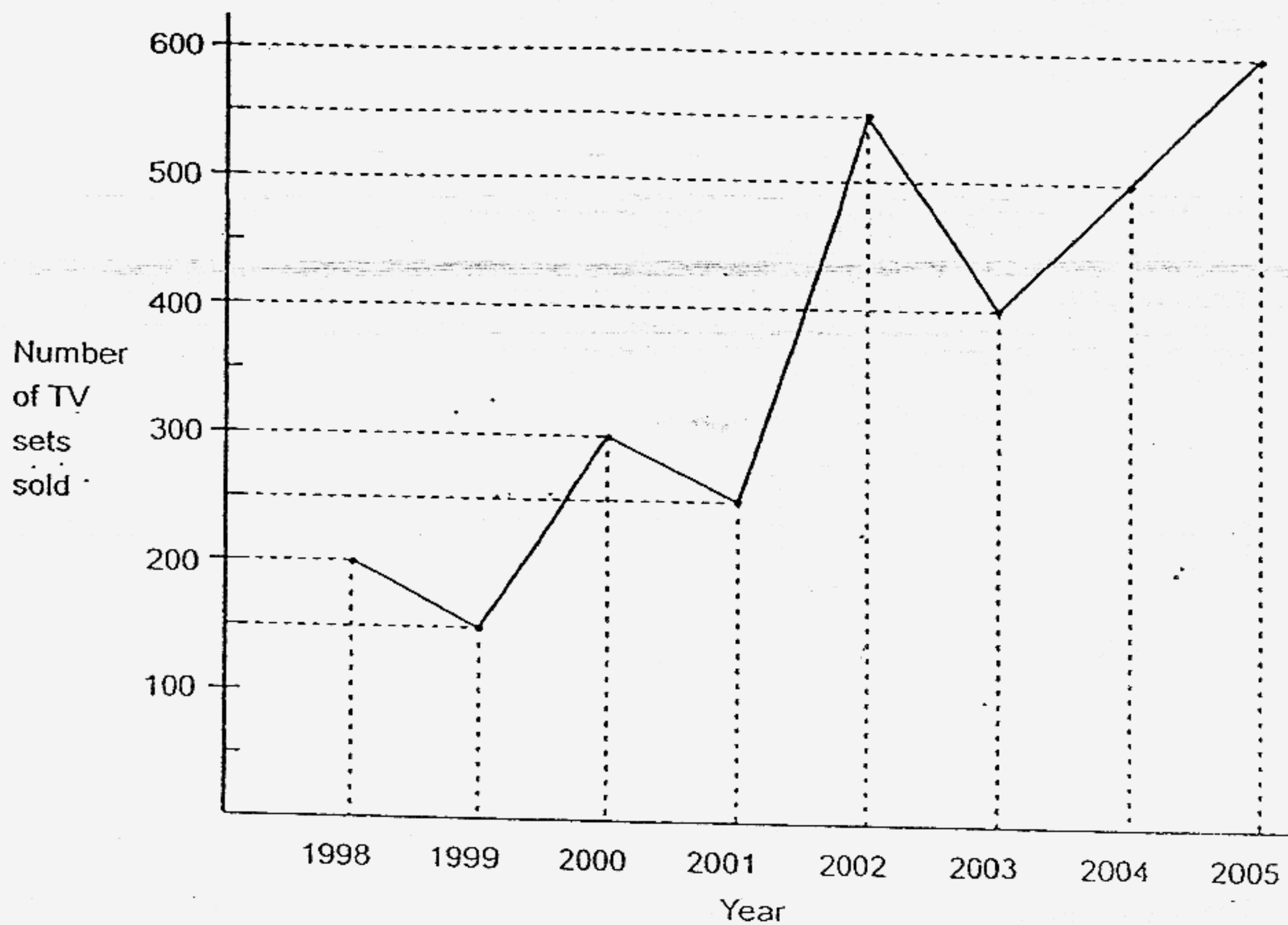
- (1) 10 min
- (2) 20 min
- (3) 30 min
- (4) 40 min

14 The figure, not drawn to scale, shows a rhombus ABCD. EDB is a straight line. Find $\angle EDC$.



- (1) 30°
- (2) 65°
- (3) 105°
- (4) 130°

- 15 The line graph below shows the number of plasma television sets sold by Hailey Nova Company from 1998 to 2005.



During which one year period was there a 25% increase in the number of plasma television sets sold?

- (1) 1999 to 2000
- (2) 2001 to 2002
- (3) 2003 to 2004
- (4) 2004 to 2005



ANGLO-CHINESE SCHOOL (JUNIOR)
ANGLO-CHINESE SCHOOL (PRIMARY)

PRIMARY 6
COMBINED PRELIMINARY EXAMINATION
2006

MATHEMATICS

Booklet B

Name: _____ ()

Class: Primary 6

Date: 24 August 2006

Total Time for Booklets A & B: 2 h 15 min

Section	Contents	Marks	Marks Obtained
A	Multiple Choice Questions	20	
B1	Short Answers: Part 1	10	
B2	Short Answers: Part 2	20	
C	Problem Sums	50	
	Total Marks	100	
	Parents' signature		

THIS BOOKLET CONTAINS PAGE 1 to 20.
DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.

Questions 16 to 25 carry 1 mark each. Write your answers in the space provided.
Give your answers in the units stated.

(10 marks)

16 Alice was born on 1 March 1999. How old will she be on 1 January 2007?

Ans : _____

17 Peter is 1.45 m tall. He is 50 cm taller than Ann. What is Ann's height in metres?

Ans : _____ m

18 A watermelon weighs 4 times as much as a mango. If their total mass is 2.6 kg, what is the mass of the mango? Give your answer in g.

Ans : _____ g

19 Find the value of $35 + (20 \times 3) \div 5$.

Ans : _____

20 In $\frac{5}{6} = \frac{5 + 10}{6 + \square}$, what is the missing number in the box?

Ans : _____

21 The number of flats in Nilam Avenue is 376 408. Express this number to the nearest ten thousand.

Ans : _____

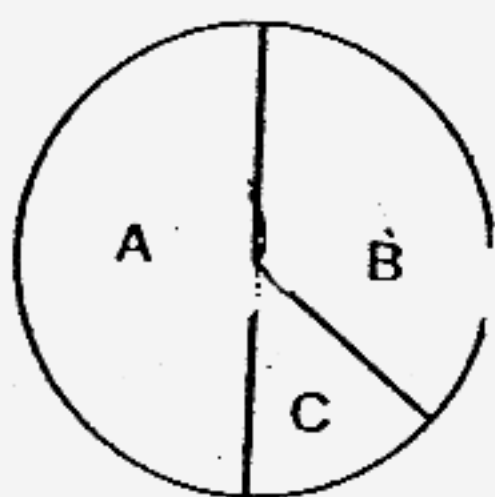
22 $63 \times 24 = \square \times 24 + 3 \times 24$. The missing number in the box is _____.

Ans : _____

- 23 Express 0.65 as a fraction in its lowest terms.

Ans : _____

- 24 In the figure below, C is $\frac{1}{4}$ of B. What fraction of the whole figure is B?



Ans : _____

- 25 When it is 0700 in Singapore, it is 0800 in Tokyo. Mr Wan left Singapore at 0745 for Tokyo. The flight lasted 5 hours 30 minutes. What time is it in Tokyo when the flight lands? (Express your answer using the 24-hour clock.)

Ans : _____

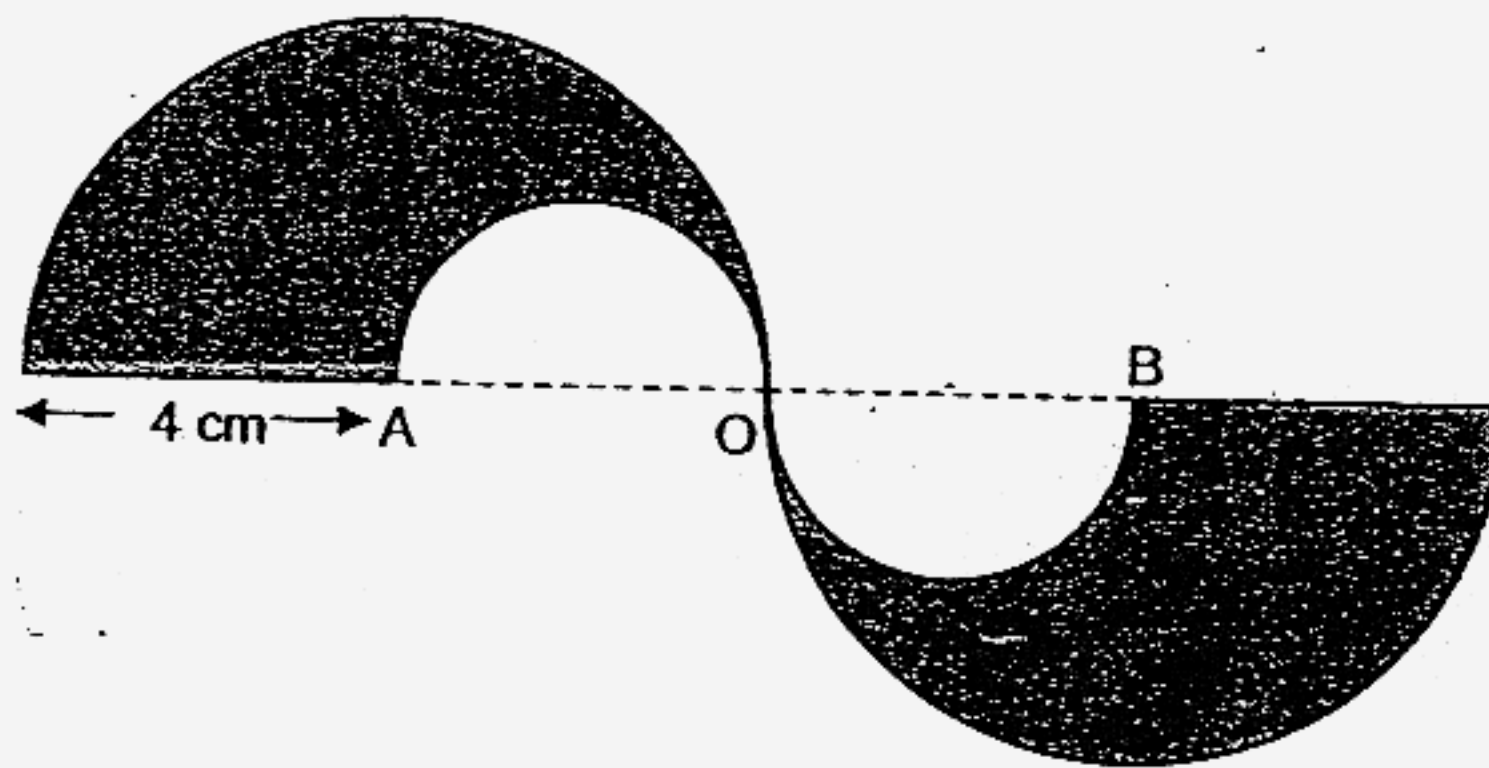
Questions 26 to 35 carry 2 marks each. Show all workings clearly. Write your answers in the space provided. Give your answers in the units stated.

(20 marks)

- 26 The ratio of the number of red marbles to the number of green marbles was 5 : 7. There were 30 more green marbles than red marbles. David bought another 50 red marbles. What is the new ratio of the number of red marbles to green marbles?

Ans : _____

27



In the figure above, AO and OB are the radii of the big semi-circles. Find the perimeter of the shaded figure. Leave your answer in terms of π .

Ans : _____ cm

B-4

- 28 A straight road has 4 bus-stops, A, B, C and D in this order. The distance between A and C is 420 m. The distance between B and D is 480 m. The distance between A and D is 700 m. What is the distance between B and C?

Ans : _____

- 29 A faulty clock ^{loses} ~~loses~~ 10 min ^{is lost} for every hour. It is set to the actual time now which is 8.30 a.m. When the clock shows ~~10.30~~ ^{actual time} a.m. what would the ~~actual time be?~~ ^{faulty clock show}

Ans : _____

30 What number does \diamond stand for?

$$\heartsuit + \spadesuit + \diamond = 10$$

$$10 - \heartsuit = \heartsuit$$

$$\clubsuit + \spadesuit + \spadesuit = 9$$

Ans : _____

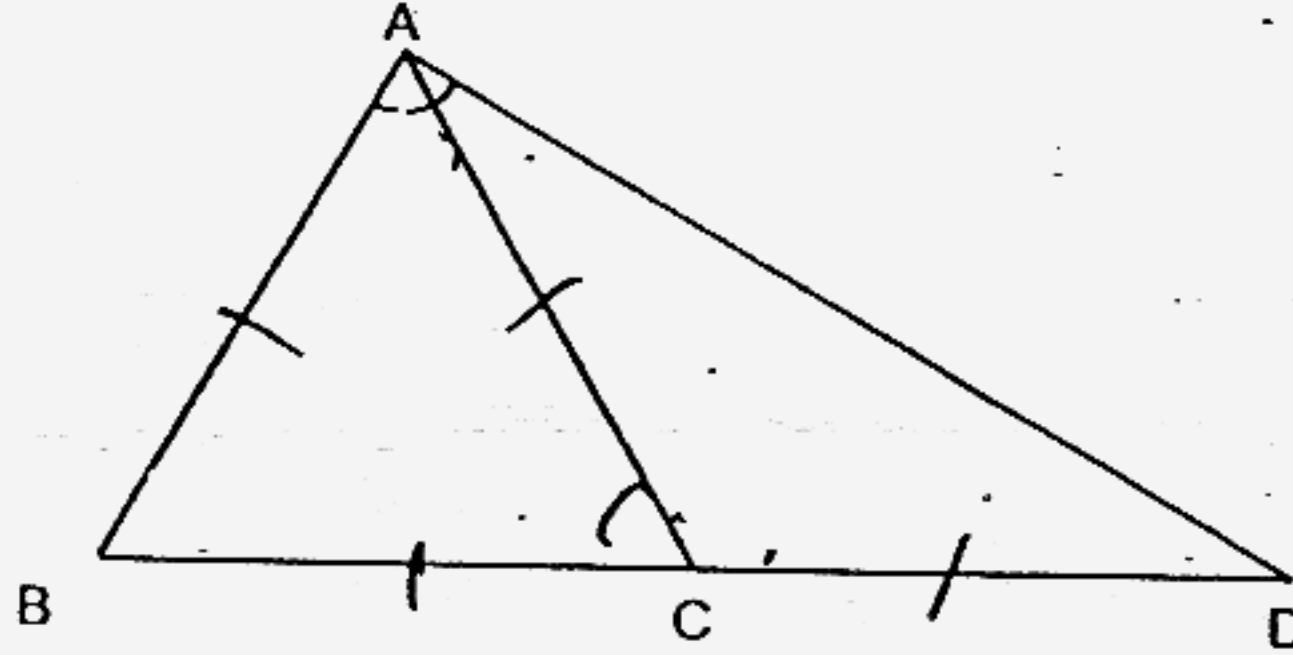
31 If $\frac{1}{2}$ of the number is 15, what is $\frac{1}{3}$ the number?

Ans : _____

32 Mrs Leong bought 3 similar blouses and 2 similar skirts for \$258. If each blouse cost \$16 more than a skirt, find the cost of a skirt.

Ans : _____

- 33 The following figure is not drawn to scale. $AB = AC = BC = CD$ and BCD is a straight line. Find $\angle BAD$.



Ans : _____

- 34 The average weight of 3 boys is 35 kg. If the average weight of 2 boys is 39 kg, find the weight of the third boy.

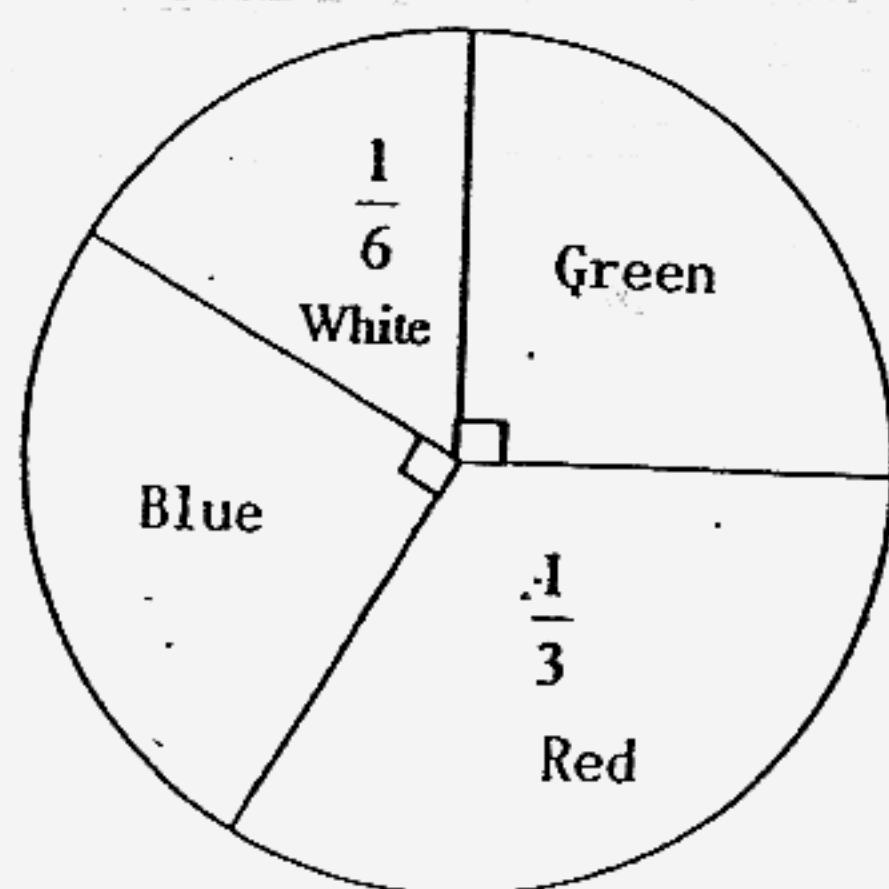
Ans : _____

- 35 · Kumar paid \$200 for some 5-kg bags of rice and he received a change of \$20. Each bag of rice cost \$5. He later packed all the rice into smaller bags of 2-kg each. How many 2-kg bags of rice would he have?

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

The number of marks available is shown in brackets [] at the end of each question or part-question. (50 marks)

36



The pie chart shows the number of different coloured beads Mary bought. Study it carefully and answer the following questions.

- (a) If Mary bought 38 more red beads than white beads, how many beads are there altogether?
- (b) What was the ratio of the number of red beads to the number of blue beads?

Ans: (a) _____ [2]

(b) _____ [1]

B-9

- 37 Tom is $5x$ years old. His brother is 7 years older than him. Find their total age in 3 years' time.

Ans: _____

38

BICYCLE FOR HIRE	
First hour	\$4.00
Every subsequent $\frac{1}{2}$ hour or part thereof	\$1.50

Mervyn hired a bicycle at 4.15 pm. He returned it $2\frac{1}{4}$ hours later.

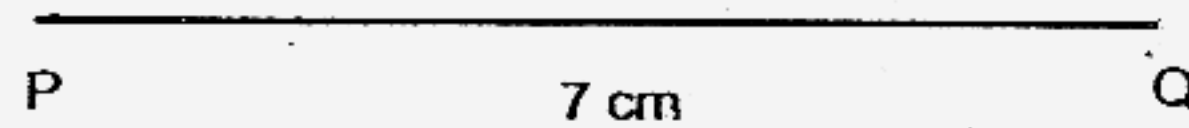
- (a) At what time did he return the bicycle?
(b) How much did he pay for hiring the bicycle?

Ans: (a) _____ [1]

(b) _____ [2]

39a) In the space below, draw a triangle PQR, in which $PQ = 7\text{ cm}$, $QR = 6\text{ cm}$ and $\angle PQR = 125^\circ$. The line PQ has been drawn for you. [2 m]

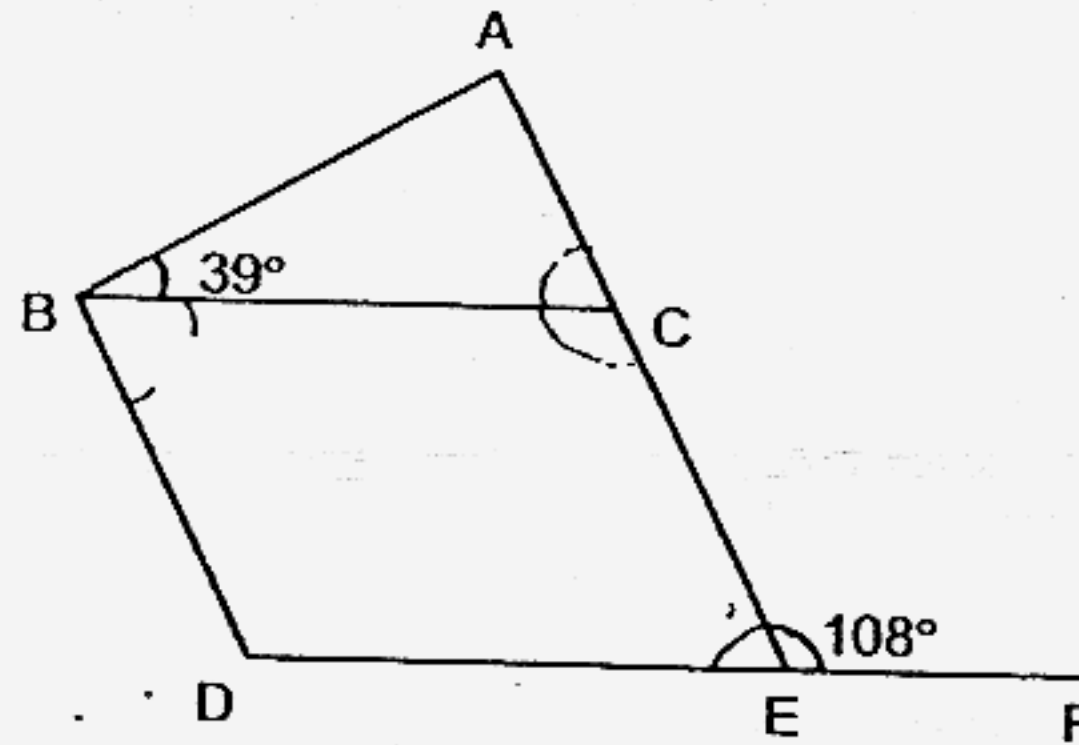
b) Measure and write down the size of $\angle PRQ$. [1 m]



Ans: (b) _____ [1]

40 In the figure, not drawn to scale, BCED is a parallelogram. ACE and DEF are straight lines, $\angle CEF = 108^\circ$ and $\angle ABC = 39^\circ$.

Find (a) $\angle CBD$ and
(b) $\angle BAC$



Ans: (a) _____ [1]

(b) _____ [2]

- 41 Jaclyn bought some toys for a party. $\frac{1}{3}$ of them were dolls, $\frac{1}{9}$ of them were toy cars and the rest were toy rabbits. The prices of the toys were as shown below:

Toy	Price per toy
Dolls	\$2
Toy cars	\$7
Toy rabbits	\$3

Jaclyn spent \$156 on the dolls and toy cars.

- (a) What is the ratio of number of dolls to toy cars?
(b) How much did she spend on the toy rabbits?

Ans:(a) _____ [1]

(b) _____ [3]

42

Mr Lee gave some money to his wife and his 5 children. Mrs Lee received $\frac{1}{5}$ of it, his two sons shared $\frac{7}{12}$ of the remainder equally and the rest was shared equally among his 3 daughters.

His sons received \$180 more than his daughters.

- a) find the sum of money given to his wife and children.
- b) how much more money did each of his son receive compared to each of his daughter?

Ans: (a) _____ [2]

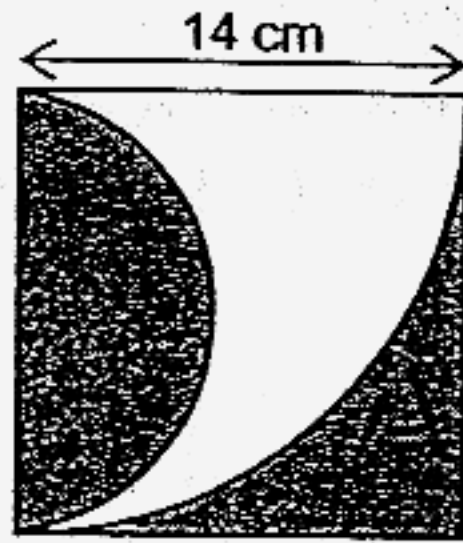
(b) _____ [2]

B-14

- 43 Siu Seng, Qi En and Ailin shared a sum of money. Siu Seng's share was 40% more than Qi En. Qi En's share was 20% less than Ailin. If Siu Seng had \$57 more than Ailin, find the sum of money Siu Seng must give to Ailin so that the amount received by Qi En to Ailin is 2 : 3.

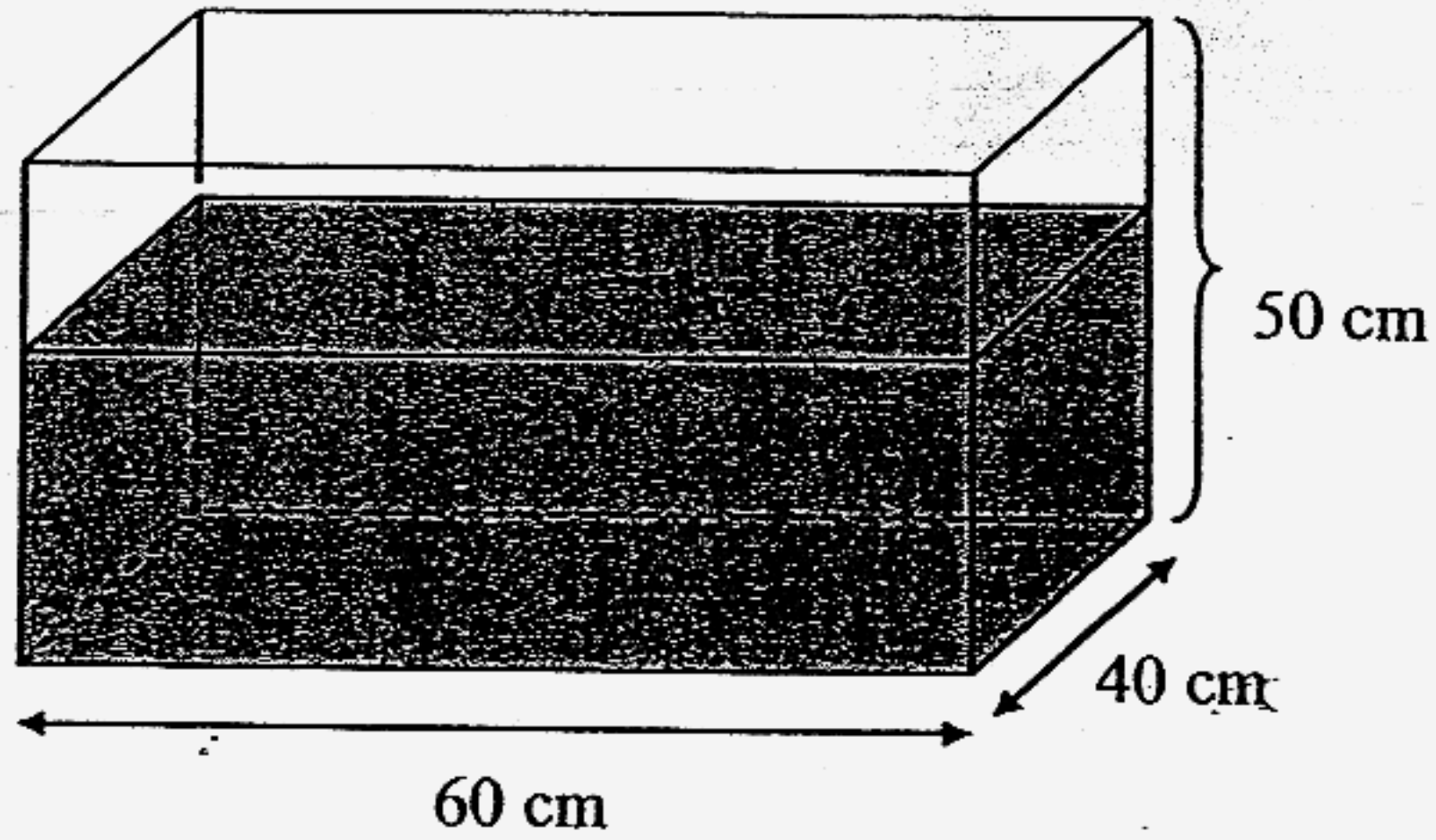
Ans : _____ [4]

- 44 The figure below shows a square, a semi-circle and a quadrant. Find area of the shaded portions. (Take $\pi = \frac{22}{7}$)



Ans: _____ [4]

- 45 The rectangular tank below contained 90 litres of water.
- (a) What was the height of the water level?
- (b) More water was added, flowing from a tap at a rate of 5 litres per minute. How long did it take for the water to fill the tank completely?
(1 litre = 1000 cm^3)



Ans:(a) _____ [2]

(b) _____ [2]

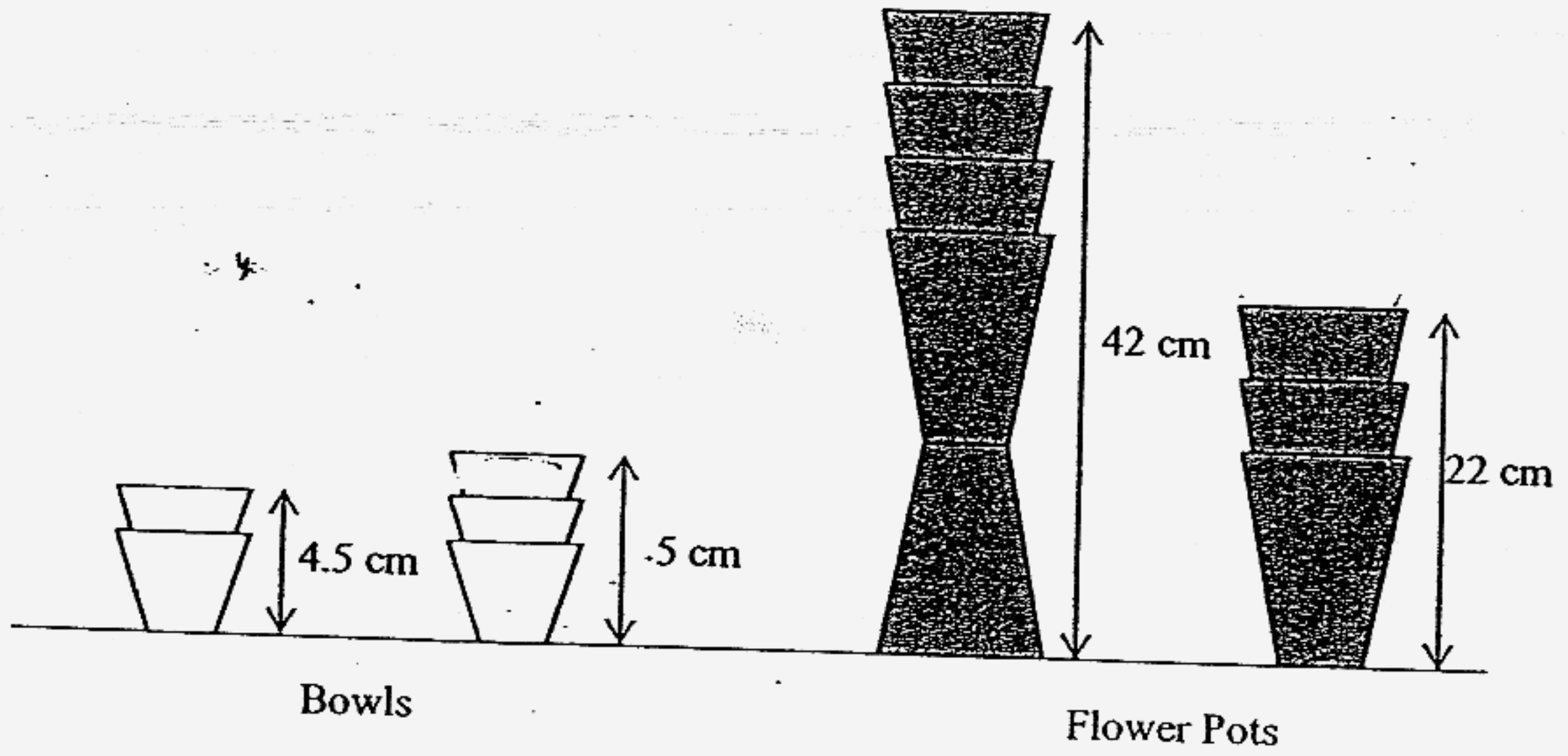
- 46 Three boys have a total of 310 stamps altogether. Adriel has 40 stamps less than John. If the number of stamps John has to the number of stamps Justin has is in the ratio of 2 : 3, find the ratio of the number of stamps John, Adriel and Justin have respectively.

Ans : _____ [5]

47

Five identical bowls and eight identical flower pots are stacked as shown below.

- (a) What is the height of a bowl?
- (b) What is the height of a flower pot?



Ans: (a) _____ [2]

(b) _____ [3]

- 48 A van travelled at an average speed of 60 km/h from Town P to Town Q. An hour and a half later, a car started out towards the same destination at an average speed of 75 km/h, reaching Town Q at the same time as the van.
- a) How long did the car take to travel from Town P to Town Q?
 - b) If both the van and the car arrived at Town Q at 0630, at what time did the van start out?

Ans:(a) _____ [3]

(b) _____ [2]

Q1	Q2	Q3	Q4	Q5
3	4	2	2	4
Q6	Q7	Q8	Q9	Q10
3	2	2	2	3
Q11	Q12	Q13	Q14	Q15
3	3	1	3	3

16. 7 years 10 months

17. 0.95m

18. 630g

19. 47

20. 12

21. 380000

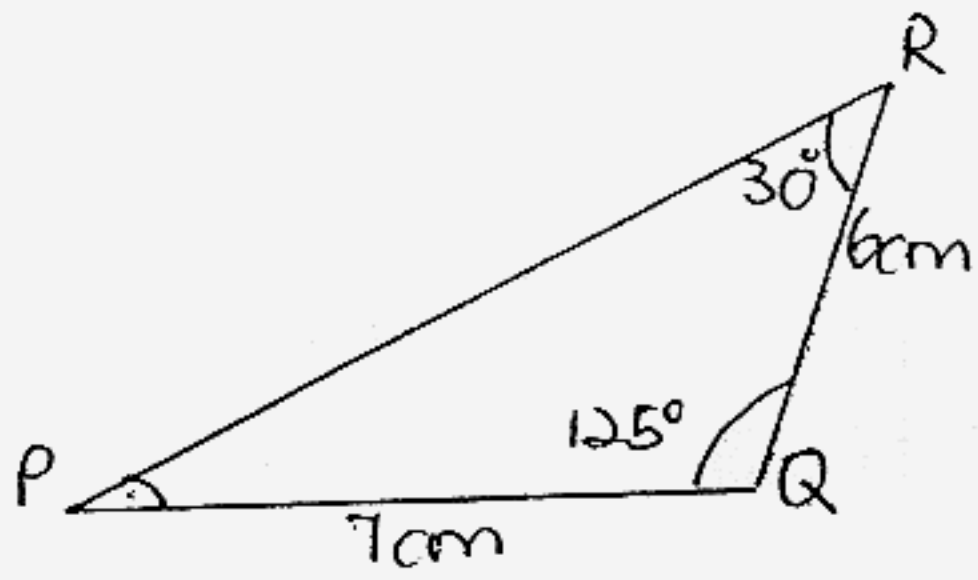
22. 60

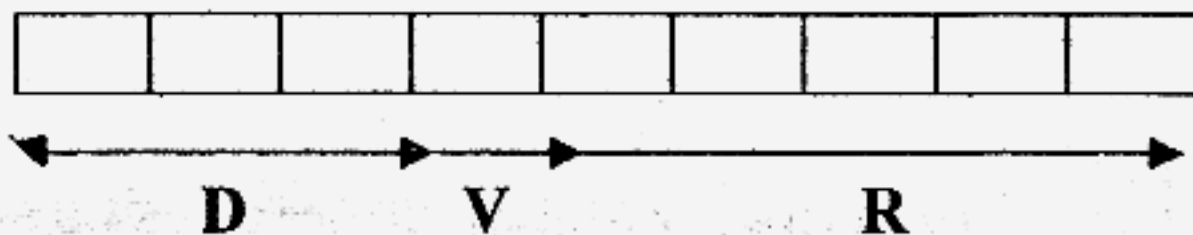
23. $\frac{13}{20}$

24. $\frac{2}{5}$

25. 1415

26.	25 : 21	27.	$(12\pi + 8)\text{cm}$
28.	200m	29.	1050 (10.50am)
30.	2	31.	10
32.	\$42.00	33.	$\angle a = (180^\circ - 120^\circ) \div 2 = 30^\circ$ $\angle BAD = 60^\circ + 30^\circ = 90^\circ$
34.	3 boys = $35 \times 3 = 105\text{kg}$ 2 boys = $39 \times 2 = 78\text{kg}$ 1 boy = $(105 - 78)\text{kg} = 27\text{kg}$	35.	$\$(200 - 20) = \180 $\$(180 \div 5) = 36$ $= 36 \times 5$ $= 180$ $180 \div 2 = 90$ He would have 90 2kg bags of rice.

36a.	2 untis = 38 12 untis = 38 x 6 = <u>228</u> (Ans)	37.	<table border="1"> <tr> <td>Tom</td> <td>5x</td> <td>3</td> <td rowspan="2">} ?</td> </tr> <tr> <td>Brother</td> <td>5x</td> <td>7y 3</td> </tr> </table>	Tom	5x	3	} ?	Brother	5x	7y 3
Tom	5x	3	} ?							
Brother	5x	7y 3								
36b.	Blue = $\frac{1}{4} = 4$ units Red = $\frac{1}{3} = 3$ units = <u>4 : 3</u> Ans		Tom = 5x yrs Brother = (5x + 7) years Total = (5x + 5x + 7) years = (10x + 7) years 3 years time = (10x + 7 + 3 + 3) years = (10x + 13) years It is <u>(10x + 13) years</u> (Ans)							
38a.	4.15pm start (4.15 + 2 $\frac{1}{4}$) = 6.30pm	39a.	a and b							
38b.	\$1.50 x 3 = \$4.50 1 $\frac{1}{4}$ = \$4.00 = \$(4.50 + 4.00) = \$8.50	39b.								

<p>40a. $\angle CBD = 180^\circ - 108^\circ = 72^\circ$</p> <p>It is <u>72°</u> (Ans)</p> <p>40b. $\angle a = 180^\circ - 108^\circ = 72^\circ$ $\angle BAC = 180^\circ - 72^\circ - 39^\circ = 69^\circ$ It is <u>69°</u> (Ans)</p>	<p>41a. </p> <p>Ratio : Dolls (D) : Cars (C) 3 : 1</p> <p>It is 3 : 1</p> <p>41b. 1 set = 3d + 1c = \$(2 x 3) + \$7 = \$13</p> <p>No. of sets = $\frac{156}{13} = 12$ sets</p> <p>Car = 12 Doll = 12 x 3 = 36 Rabbit = $\frac{36}{3} \times 5 = 60$ Cost of rabbit = 60 x \$3 = \$180 It is <u>\$180.00</u> (Ans)</p>
<p>42a. 2 units = \$180 15 units = <u>\$1350</u> (Ans)</p> <p>42b. 7 units = 90 x 7 = 630 = 630 ÷ 2 = 315 5 units = 90 x 5 = 450 = 450 ÷ 3 = 150 = 315 - 150 = <u>165</u> (Ans)</p>	<p>43. Siu Seng = 100 + 40)% = 140% Qi En = 100% Ai Lin = 125% $\frac{100}{80} \times 100 = 125\%$ Qi En : Ailin 2 : 3</p> <p>2 units = 100% 3 units = 150% = (150 - 125)% = 25%</p> <p>15% = \$57 25% = <u>\$95.</u> (Ans)</p>

44.	<p>Quadrant square = $\frac{22}{7} \times 14 \times 14 \times \frac{1}{4}$ = 154cm^2</p> <p>Area of square = 14×14 = 196cm^2</p> <p>Area of A = $196 - 154 = 42\text{cm}^2$</p> <p>Area of B = $\frac{22}{7} \times 7 \times 7 \times \frac{1}{2}$ = 77cm^2</p> <p>Area of shaded part = $(42 + 77)\text{cm}^2$ = 119cm^2</p> <p>It is <u>119cm^2</u> (Ans)</p>	45a.	<p>Base = $60 \times 40 = 2400\text{cm}^2$</p> <p>Water level = $90000 \div 2400 = 37.5\text{cm}$</p> <p>It is 37.5cm</p> <p>45b. Left = $(50.00 - 37.5) \times 2400$ = 30000cm^3 = 30l</p> <p>Time = $30 \div 5$ = 6 minutes</p> <p>It is <u>6 minutes</u> (Ans)</p>
46.	<p>$310 - 40 = 350$</p> <p>$7u = 350$</p> <p>$3u = 50 \times 3 = 150$ (Ju)</p> <p>$2u = 50 \times 2 = 100$ (Jo)</p> <p>$100 - 40 = 60$ (A)</p> <p>Jo : A : Ju 100 : 60 : 150 10 : 6 : 15 (Ans)</p>	47a.	<p>Bowls = $(5 - 4.5)\text{cm} = 0.5\text{cm}$</p> <p>1 Bowl = $4.5\text{cm} - 0.5\text{cm} = 4\text{cm}$</p> <p>It is <u>$4\text{cm}$</u> (Ans)</p> <p>47b. Bowl + Flower pot = $(42 - 22)\text{cm}$ = 20cm</p> <p>Bowl = $(22 - 20)\text{cm}$ = 2cm</p> <p>1 Flower pot = $(22 - 2 - 2)\text{cm}$ = 18cm</p> <p>It is <u>18cm</u> (Ans)</p>
48a.	<p>Different speed = $75\text{km/h} - 60\text{km/h} = 15\text{km/h}$</p> <p>Different time = $1\frac{1}{2}\text{hr}$</p> <p>Van ($1\frac{1}{2}\text{hr}$) = $60 \times \frac{3}{2} = 90\text{km}$</p> <p>Car (time) = $90 \div 15 = 6\text{hrs}$</p> <p>It is <u>6 hours</u> (Ans)</p> <p>48b.</p> <p>Van (time) = $6\text{ hours} + 1\frac{1}{2}\text{hr} = 7\frac{1}{2}\text{hr}$</p> <p>It is <u>$2300$ hours</u> (Ans)</p>		