



**MARIS STELLA HIGH SCHOOL (PRIMARY)**

**SEMESTRAL ASSESSMENT 1**

**PRIMARY 4 MATHEMATICS**

**11 MAY 2015**

**BOOKLET A**

20 questions

40 marks

Total time for Booklets A and B: 1 h 45 min

**NAME :** \_\_\_\_\_

**CLASS : PRIMARY 4**, \_\_\_\_\_

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

**FOLLOW ALL INSTRUCTIONS CAREFULLY.**

**ANSWER ALL QUESTIONS.**

**Section A (20 x 2 = 40 marks)**

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.

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1. In which of the following is the digit 8 in the thousands place?

- (1) 24 083
- (2) 34 861
- (3) 84 572
- (4) 98 063

2. The best estimate for  $48 \times 732$  is \_\_\_\_\_.

- (1)  $40 \times 700$
- (2)  $40 \times 800$
- (3)  $50 \times 700$
- (4)  $50 \times 800$

3. The table below shows the examination results of three pupils.

Name	English	Mathematics	Mother Tongue	Science
Kenneth	90	70	40	86
Linus	40	35	80	77
Mike	20	60	45	43

In which subject did Kenneth score twice as many marks as Linus?

- (1) English
- (2) Mathematics
- (3) Mother Tongue
- (4) Science

4. Find the sum of  $\frac{7}{8}$  and  $\frac{3}{4}$ .

(1)  $\frac{10}{12}$

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

(3)  $1\frac{5}{8}$

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

5. Which one of the following has the greatest value?

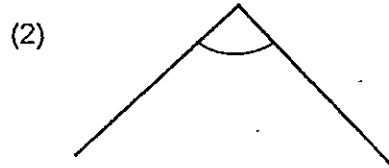
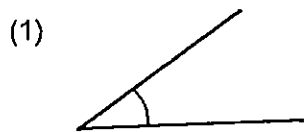
(1)  $\frac{2}{3} \times 18$

(2)  $\frac{3}{8} \times 24$

(3)  $\frac{2}{5} \times 15$

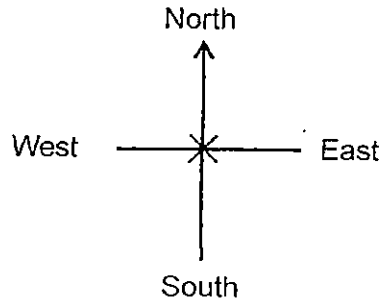
(4)  $\frac{1}{6} \times 12$

6. Which one of the following angles is equal to  $90^\circ$ ?



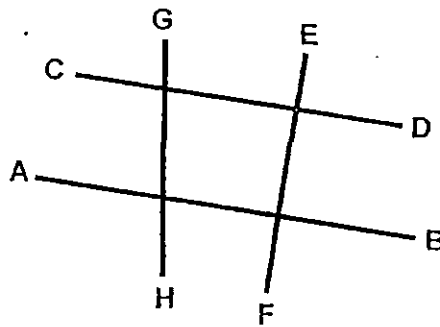
7. You are standing on point X, facing East.  
After making half a turn in an anti-clockwise direction, where will you be facing?

- (1) West
- (2) East
- (3) North
- (4) South



8. Name a pair of perpendicular lines in the following diagram.

- (1) AB and CD
- (2) EF and CD
- (3) EF and GH
- (4) AB and GH



9. Which one of the following is the same length as 3065 cm?

- (1) 3 m 65 cm
- (2) 30 m 65 cm
- (3) 3 km 65 m
- (4) 30 km 65 cm

10. Tim spent 4 hours 30 minutes revising his work.  
How many minutes did he spend on his revision?

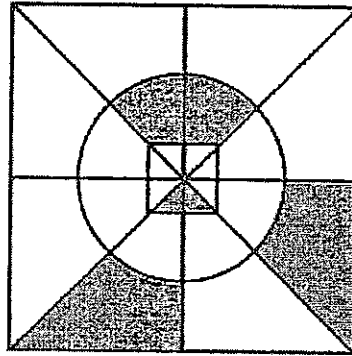
- (1) 43 min
- (2) 240 min
- (3) 270 min
- (4) 430 min

11. Siew Leng started her music lesson at 11.45 a.m. and ended at 2.15 p.m. How long was her music lesson?
- (1) 1 h 15 min
  - (2) 1 h 30 min
  - (3) 2 h 15 min
  - (4) 2 h 30 min

12. Find the sum of the common factors of 9 and 12.
- (1) 9
  - (2) 13
  - (3) 3
  - (4) 4

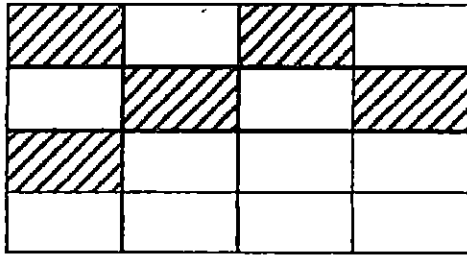
13. What fraction of the figure is shaded?

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

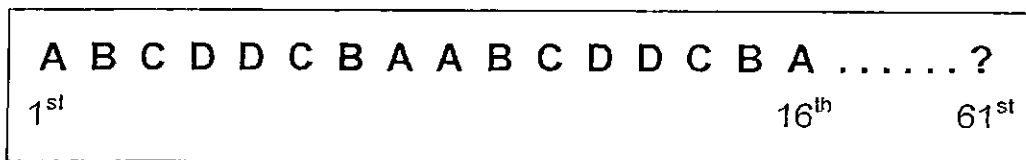


14.  $\frac{2}{3}$  m of rope costs \$18. How much would  $\frac{1}{9}$  m of the same rope cost?
- (1) \$6
  - (2) \$2
  - (3) \$3
  - (4) \$12

15. The figure below is made up of 16 identical rectangles. How many **more** rectangles must be shaded so that  $\frac{3}{4}$  of the figure is shaded?



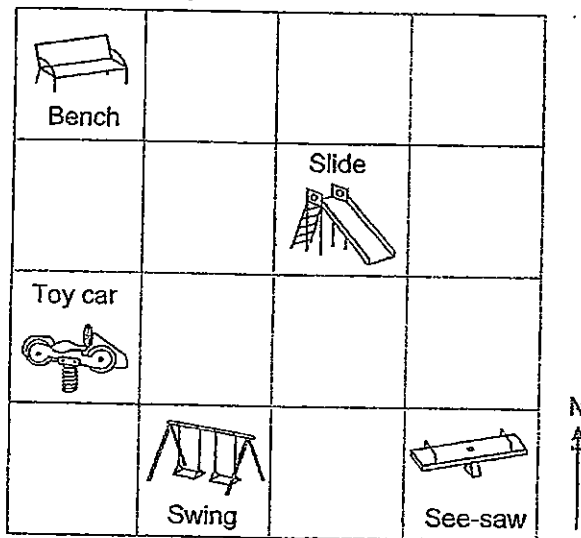
- (1) 12  
 (2) 7  
 (3) 5  
 (4) 4
16. Ahmad uses four letters to form a pattern. The first 16 letters in the pattern are shown below. Which letter is in the 61<sup>st</sup> position?



- (1) A  
 (2) B  
 (3) C  
 (4) D
17. Michael has 168 sweets. He puts 20 sweets in each bag, except the last bag which has fewer than 20 sweets. How many more sweets does Michael need so that he has exactly 20 sweets in each bag?
- (1) 8  
 (2) 2  
 (3) 12  
 (4) 20

18. There were 36 cupcakes in a box at first.  $\frac{1}{3}$  of them were chocolate cupcakes. The rest were strawberry cupcakes. Mother ate 3 of the strawberry cupcakes. How many strawberry cupcakes were left?
- (1) 9  
 (2) 12  
 (3) 21  
 (4) 24

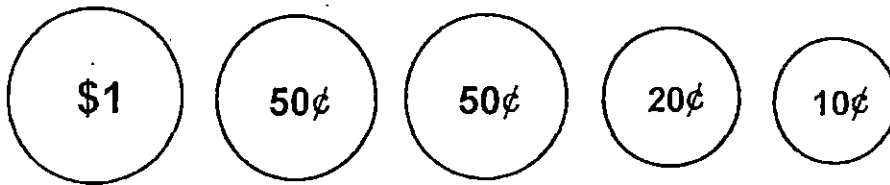
19. The square grid below shows the plan of a playground. The bench is north of the toy car.



The swing is \_\_\_\_\_ of the toy car.

- (1) north-east  
 (2) north-west  
 (3) south-west  
 (4) south-east

20. Mary has the following 5 coins in her purse.



She takes out **3 coins** to pay for an ice-cream. What could be the cost of the ice-cream?

- (1) \$0.70
- (2) \$1.10
- (3) \$1.40
- (4) \$1.80

End of Booklet A.  
Go on to Booklet B



Section B (20 x 2 = 40 marks)

Show your working clearly in the spaces below each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

21. Arrange the following fractions from the greatest to the smallest.

$$\frac{2}{3}, \frac{5}{6}, \frac{3}{4}$$

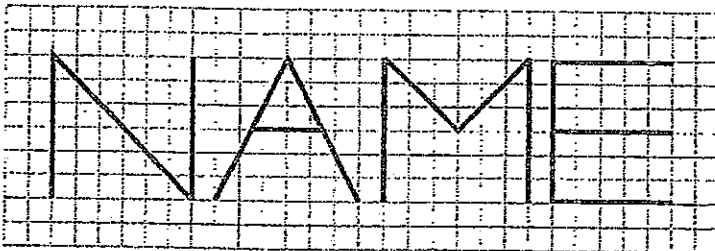
Answer: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_  
(greatest) (smallest)

Do not write in this space.

22. Express  $4\frac{3}{5}$  as an improper fraction.

Answer: \_\_\_\_\_

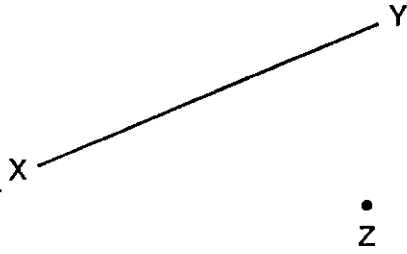
23. In the diagram below, the letters N, A, M and E are drawn on a square grid.



Which of these letters have perpendicular lines?  
Write the letter(s) on the answer line provided below.

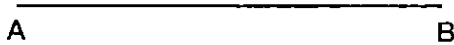
Answer: \_\_\_\_\_

24. Draw a line parallel to XY passing through Z.

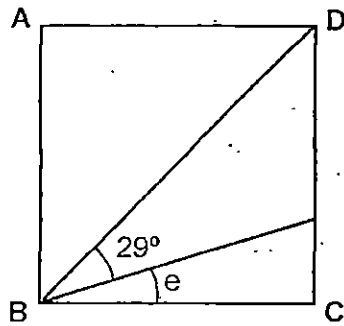


Do not write in this space.

25. Use the line below to draw  $\angle ABC$  such that it is  $135^\circ$ . Mark out the angle and label point C in the figure.



26. In the diagram below, ABCD is a square. Find  $\angle e$ .

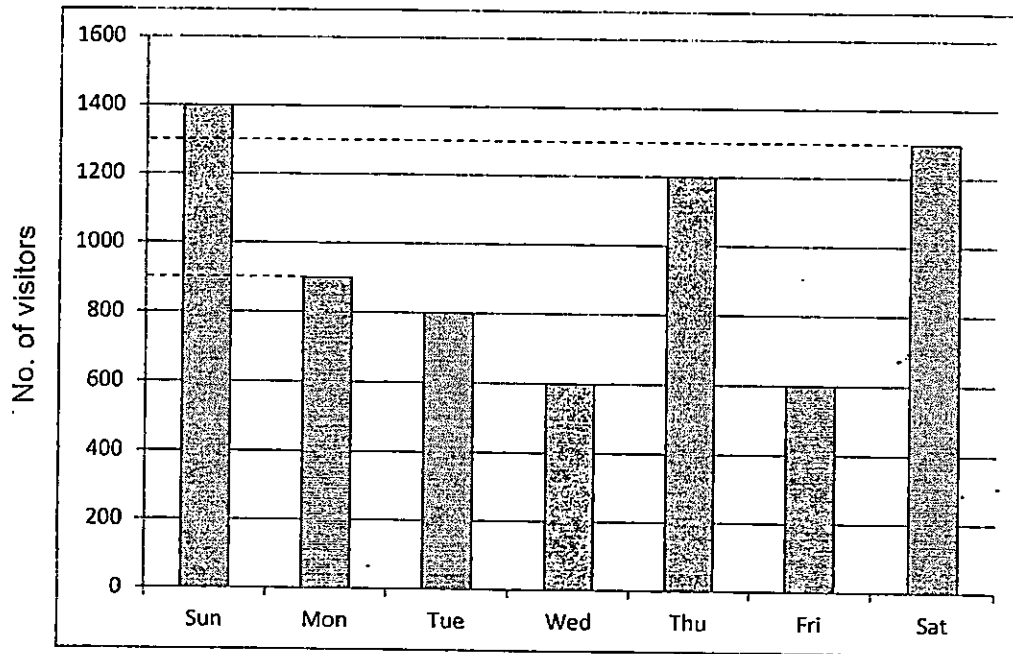


Answer: \_\_\_\_\_<sup>o</sup>

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The graph below shows the number of visitors to a tourist attraction from Sunday to Saturday. Study it carefully and answer questions 27 and 28.

Do not write in this space.



27. What was the difference between the greatest number of visitors and the smallest number of visitors in that week?

Answer: \_\_\_\_\_

28. On which day were there twice as many visitors as on Wednesday?

Answer: \_\_\_\_\_

29. A wallet costs \$39.90. It costs \$4.90 more a purse.  
Find the total cost of the wallet and the purse.

Do not  
write in  
this  
space.

Answer: \$ \_\_\_\_\_

30. A number is a multiple of 3. It is between 10 and 40.  
It is also a factor of 45. What is the number?

Answer: \_\_\_\_\_

31. Last weekend, Mr Tan, his wife, his 10 year-old daughter and 13 year-old son visited an exhibition. The admission fees are as follows:

**Admission Fee**

\$6.00 per child  
(12 years and below)

\$8.70 per adult

How much did the Tan family pay altogether?

Answer: \$ \_\_\_\_\_

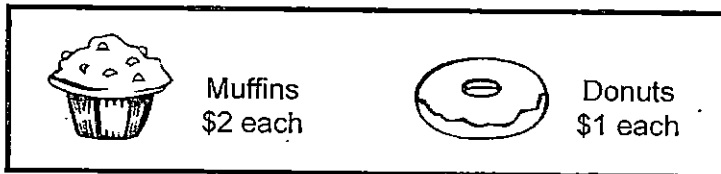
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32. Vanessa spent  $\frac{1}{4}$  of her money on a dress and had \$69 left.  
How much did she have at first?

Do not  
write in  
this  
space.

Answer: \$ \_\_\_\_\_

33. Mrs Ong bought some muffins and donuts at the prices shown below.



She bought 3 more donuts than muffins and spent \$18 altogether.  
How many muffins did she buy?

Answer: \_\_\_\_\_

34.  $\frac{3}{7}$  of the students in Primary 4K scored Band 1 in a test.  
An equal number of them scored Band 2 and Band 3.  
12 students scored Band 2. How many students scored Band 1?

Answer: \_\_\_\_\_

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35. Adam, Ben and Chris received \$380 altogether.  
Adam received twice as much as Ben.  
Chris received \$20 less than Adam.  
How much did Ben receive?

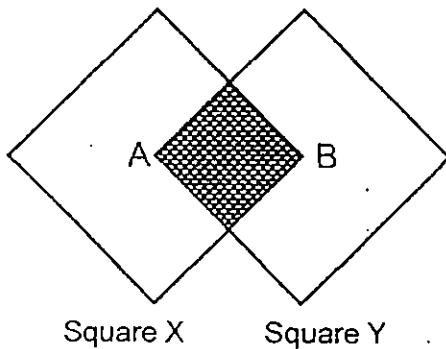
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space.

Answer: \$ \_\_\_\_\_

36. 2 books and 2 files cost \$13.  
5 books and 4 files cost \$30.  
Find the cost of 1 book.

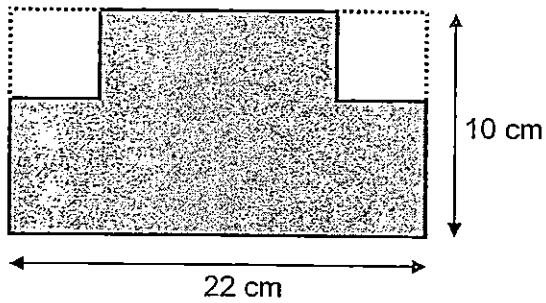
Answer: \$ \_\_\_\_\_

37. Two identical squares overlap each other to form the figure below.  
A and B are the centres of squares X and Y respectively.  
What fraction of the figure is shaded?



Answer: \_\_\_\_\_

38. Two identical squares of side 4 cm are cut out from a rectangular piece of paper measuring 22 cm by 10 cm. Find the perimeter of the remaining paper.



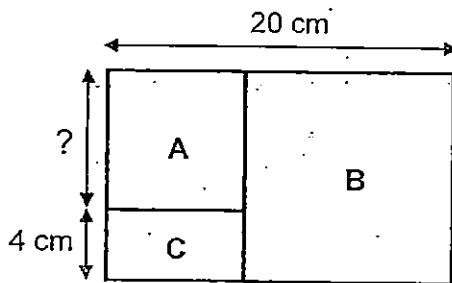
Answer: \_\_\_\_\_ cm

Do not write in this space.

39. There were 5 word problems in Matthew's Mathematics worksheet. He spent 6 min on each word problem. He then spent 1 h 25 min on a project. If he started doing his Mathematics worksheet at 11.45 a.m., at what time would he finish his project?

Answer: \_\_\_\_\_ p.m.

40. The figure below is made up of Squares A and B and Rectangle C. Find the length of Square A.



Answer: \_\_\_\_\_ cm

**Section C ( 5 x 4 = 20 marks )**

Work out the answers for each of the following questions. All workings must be shown clearly in the space provided.

41. Paul had some marbles.  $\frac{7}{12}$  of them were blue,  $\frac{1}{12}$  of them were red,  $\frac{1}{6}$  of them were green and the rest were yellow.

(a) What fraction of Paul's marbles were yellow?

Leave your answer in its simplest form.

(b) Paul had 37 yellow marbles.

How many marbles did he have altogether?

Do not write in this space.

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

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



42. There are 165 pencils in Box A and 73 pencils in Box B.  
How many pencils must be moved from Box A to Box B so that Box B has 24 more pencils than Box A?

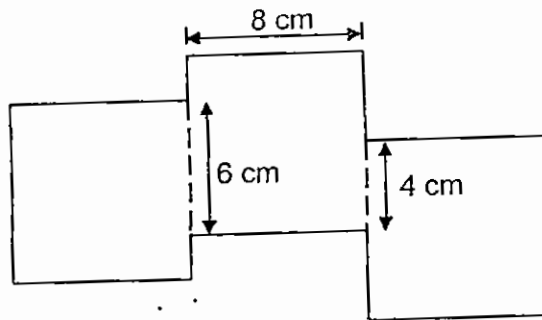
Do not write in this space.

Answer: \_\_\_\_\_ [4]

43. The figure below is made up of three identical squares of side 8 cm.

(a) Find the area of the figure.

(b) Find the perimeter of the figure.



Do not  
write in  
this  
space.

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

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

44. In Day 1, Halim poured 3 litres of water into a tank.  
 In Day 2, he poured 2 litres of water into the tank.  
 He continued pouring 2 litres of water into the tank for the next few days.

- (a) How many litres of water were there in the tank in Day 6?  
 (b) On which day would there be a total of 35 litres of water in the tank?

Do not write in this space.

Day	Amount of water poured into the tank (litres)	Total amount of water in the tank (litres)
1	3	3
2	2	5
⋮	⋮	⋮
6	⋮	(a) ?
⋮	⋮	⋮
⋮	⋮	⋮
⋮	⋮	⋮
⋮	⋮	⋮
(b) ?	⋮	35

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

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

45. Jeremy strings some red and blue beads to make a necklace.  
For every 2 red beads Jeremy uses, he uses 6 blue beads.  
He uses a total of 72 red and blue beads for the necklace.  
How many more blue beads than red beads does he use?  
(Hint : You may make a list)

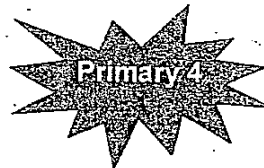
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Answer: \_\_\_\_\_ [4]

END OF PAPER



MARIS STELL HIGH SCHOOL (PRIMARY)  
SEMESTRAL ASSESSMENT 1  
11 MAY 2015  
MATHEMATICS  
ANSWER KEY



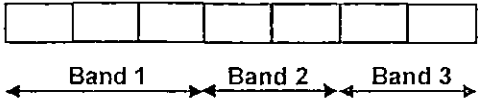
Section A: 20 x 2 marks

	Answer		Answer		Answer		Answer
1	4	6	2	11	4	16	4
2	3	7	1	12	4	17	3
3	2	8	2	13	1	18	3
4	3	9	2	14	3	19	4
5	1	10	3	15	2	20	2

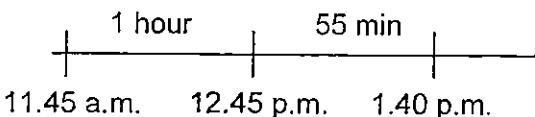
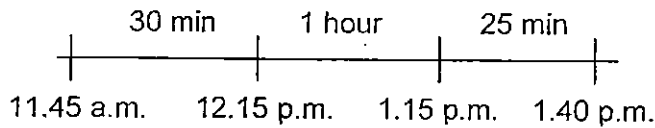
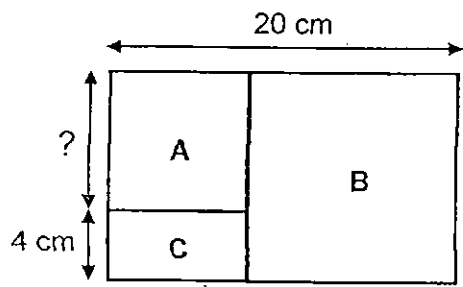
Section B: 20 x 2 marks

(Note: If no workings are shown in this section but answers are correct, award A2 each. If answer is wrong but method is correct, award M1. If method is wrong, but answer written on the answer line is correct, 0 mark.)

Qns.	Answers
21	$\frac{5}{6}, \frac{3}{4}, \frac{2}{3}$ [Note: Fractions on the answer line must be written in the <u>original form</u> , else <u>no mark</u> .]
22	$4\frac{3}{5} = \frac{23}{5}$
23	M, E
24	
25	

Qns	Answers	
26	$45^\circ - 29^\circ$ $= \underline{16^\circ}$	
27	$1400 - 600$ $= \underline{800}$	
28	<u>Thursday</u> or <u>Thu</u>	
29	Purse $\rightarrow \$39.90 - \$4.90 = \$35$ Total $\rightarrow \$39.90 + \$35$ $= \underline{\$74.90}$	$\$39.90 \times 2 = \$79.80$ $\$79.80 - \$4.90$ $= \underline{\$74.90}$
30	Multiples of 3: 12, <u>15</u> , 18, 21, 24, 27, 30, 33, 36, 39 Factors of 45: 1, 3, 5, 9, <u>15</u> , 45 Answer: <u>15</u>	
31	$\$8.70 \times 3 = \$26.10$ $\$26.10 + \$6$ $= \underline{\$32.10}$	
32	3 units = \$69 1 unit = $\$69 \div 3 = \$23$ 4 units = $4 \times 23$ $= \underline{\$92}$	
33	$18 - 3 = 15$ 1 set $\rightarrow 2 + 1 = 3$ $15 \div 3$ $= \underline{5}$	
34	 2 units = 12 1 unit = $12 \div 2 = 6$ 3 units = $3 \times 6$ $= \underline{18}$	



Qns	Answers
39	<p>Time taken for word problems <math>\rightarrow 5 \times 6 \text{ min} = 30 \text{ min}</math></p> <p>Total time taken <math>\rightarrow 30 \text{ min} + 1 \text{ h } 25 \text{ min}</math>  <math>= 1 \text{ h } 55 \text{ min}</math></p>  <p>Completed reading at <b>1.40 p.m.</b></p> <p><b>Alternatively,</b></p>  <p>Completed reading at <b>1.40 p.m.</b></p>
40	<p><b>Method 1</b></p>  <p>Length of A + Length of B = 20 cm</p> <p>Length of A + Length of B + Breadth of C = 24 cm</p> <p>Length of A + Breadth of C = Length of B (see above)</p> <p>Length of A + Breadth of C = 24 <math>\div</math> 2 = 12 cm</p> <p>So, Length of A = 12 - 4  <math>= \underline{8 \text{ cm}}</math></p> <p><b>Method 2</b></p> <p>length of A + length of B = 20 cm</p> <p>length of A + 4 cm = length of B</p> <p>2 x length of A + 4 cm = 20 cm</p> <p>2 x length of A = 20 - 4 = 16 cm</p> <p>So, Length of A = 16 cm <math>\div</math> 2  <math>= \underline{8 \text{ cm}}</math></p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p><b>Method 3</b></p> <p><b>[Guess and Check]</b></p> <p>20 = 8 (A) + 12 (B)</p> <p>8 (A) + 4 (C) = 12 (B)</p> <p>Answer: <b><u>8 cm</u></b></p> </div>



**Section C: 5 x 4 marks**

41. (a) Yellow  $\rightarrow 1 - \frac{7}{12} - \frac{1}{12} - \frac{1}{6}$   
 $= \frac{12}{12} - \frac{7}{12} - \frac{1}{12} - \frac{2}{12}$   
 $= \frac{2}{12} = \frac{1}{6}$

(b)  $\frac{1}{6} \rightarrow 37$   
Total  $\rightarrow 6 \times 37$   
 $= \underline{222}$

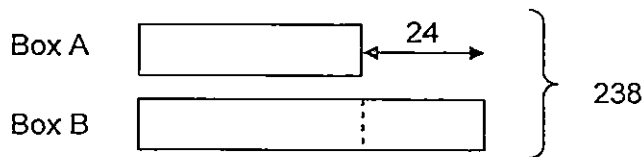
He had 222 marbles altogether.

**Alternatively,**

Blue + Red + Green  
 $\rightarrow \frac{7}{12} + \frac{1}{12} + \frac{1}{6} = \frac{10}{12}$   
Yellow  $\rightarrow \frac{12}{12} - \frac{10}{12}$   
 $= \frac{2}{12} = \frac{1}{6}$

42. Total before = Total after =  $165 + 73$   
 $= 238$

**After Model:**



**After:**

$238 - 24 = 214$   
Box A  $\rightarrow 214 \div 2 = 107$   
 $165 - 107$   
 $= \underline{58}$

58 pencils must be moved from Box A to Box B

**Alternatively,**

Total at first  $\rightarrow 165 + 73 = 238$   
 $238 + 24 = 262$   
Box B  $\rightarrow 262 \div 2 = 131$   
 $131 - 73$   
 $= \underline{58}$

43. (a) Area of 1 square  $\rightarrow 8 \times 8 = 64 \text{ cm}^2$   
 Area of 3 squares  $\rightarrow 3 \times 64$   
 $= \underline{192 \text{ cm}^2}$

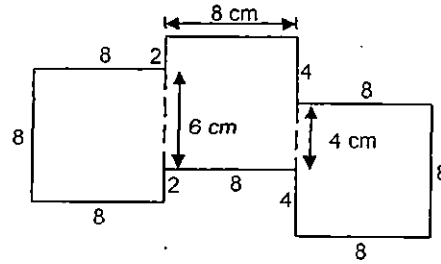
Alternative:  
 Area of 3 squares  $\rightarrow 24 \times 8$   
 $= \underline{192 \text{ cm}^2}$

(b) Method 1

Perimeter  $\rightarrow 8 + 2 + 8 + 4 + 8 + 8 + 8 + 4 + 8 + 2 + 8 + 8$   
 $= \underline{76 \text{ cm}}$

Method 2

$8 \times 8 \text{ cm} = 64 \text{ cm}$   
 $2 \times 2 \text{ cm} = 4 \text{ cm}$   
 $2 \times 4 \text{ cm} = 8 \text{ cm}$   
 Perimeter  $\rightarrow 64 + 4 + 8$   
 $= \underline{76 \text{ cm}}$



[Note: Deduct  $\frac{1}{2}$  mark overall for missing units or wrong units.]

44. (a) Method 1

Day 1  $\rightarrow 3 \ell$   
 Day 2  $\rightarrow 2 + 3 = 5 \ell$   
 Day 3  $\rightarrow 2 + 5 \ell = 7 \ell$   
 Day 4  $\rightarrow 2 + 7 \ell = 9 \ell$   
 Day 5  $\rightarrow 2 + 9 \ell = 11 \ell$   
 Day 6  $\rightarrow 2 + 11 \ell$   
 $= \underline{13 \ell}$

Method 2

Day 2 to Day 6  $\rightarrow 5 \text{ (days)} \times 2 \ell = 10 \ell$   
 Total 6 days  $\rightarrow 3 \ell + 10 \ell$   
 $= \underline{13 \ell}$

[Note: Deduct  $\frac{1}{2}$  mark for missing units or wrong units.]

- (b)  $35 - 3 = 32$   
 $32 \div 2 = 16$   
 No. of days  $\rightarrow 16 + 1$   
 $= 17 \text{ days}$   
 Answer: Day 17

Alternatively,  
 Day 6  $\rightarrow 13 \ell$   
 $35 - 13 = 22$   
 $22 \div 2 = 11 \text{ (more days)}$   
 $11 + 6 = 17$   
 Answer: Day 17

45. **Method 1**

Red beads	Blue Beads	Total beads
2	6	$2 + 6 = 8$
4	12	16
6	18	24
8	24	42
10	30	40
12	36	48
14	42	56
16	48	64
18	54	72

$$54 - 18$$

$$= \underline{36}$$

**Method 2**

$$2 + 6 = 8 \quad (\text{total beads in 1 set})$$

$$72 \div 8 = 9 \text{ sets}$$

$$9 \times 2 = 18 \text{ red} \quad 9 \times 6 = 54 \text{ blue}$$

$$54 - 18$$

$$= \underline{36}$$

**Method 3**

$$2 + 6 = 8 \quad (\text{total beads in 1 set})$$

$$72 \div 8 = 9 \text{ sets}$$

$$6 - 2 = 4 \quad (\text{Difference in 1 set})$$

$$9 \times 4$$

$$= \underline{36}$$

END