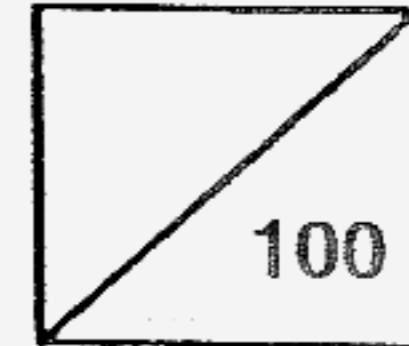# Rosyth School
Preliminary Examination 2006
Mathematics
Primary 6

Total [/] 100

Name: _____

Class: Pr 6-_____   Register No. _____   Duration: 2 hr 15 min

Date: 22 Aug 2006   Parent's Signature: _____

Instructions to Pupils:
1. Do not open this booklet until you are told to do so.
2. Follow all instructions carefully.
3. This paper consists of 2 booklets, Booklet A and Booklet B.
4. For questions 1 to 15 in Booklet A, shade the correct ovals on the Optical Answer Sheet (OAS).
5. ANSWER ALL THE QUESTIONS.

	Maximum	Marks Obtained
Booklet A	20	
Booklet B Section B	30	
Booklet B Section C	50	
Total	100	

* This paper consists of _____25_____ pages altogether.

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Section 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)

1. Which one of the following decimals is the smallest?

    (1) 0.100

    (2) 0.196

    (3) 0.023

    (4) 0.189

2. Divide 3003 by 1000. The answer is _____.

    (1) 0.3003

    (2) 3.003

    (3) 30.03

    (4) 300.3

3. What is the maximum number of 23-cent stamps you can buy with $5?
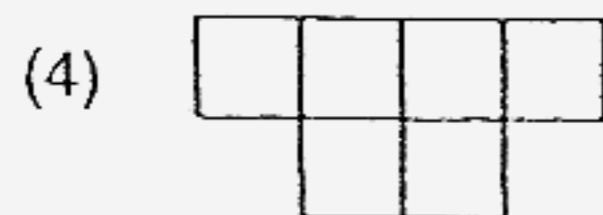
    (1) 20

    (2) 21

    (3) 22

    (4) 23
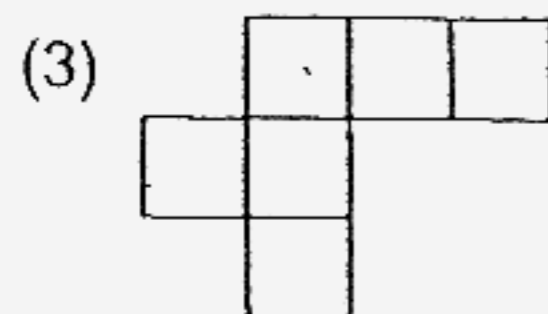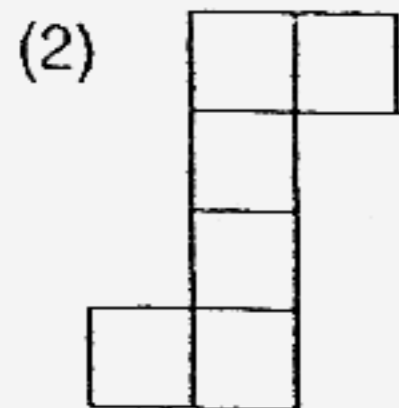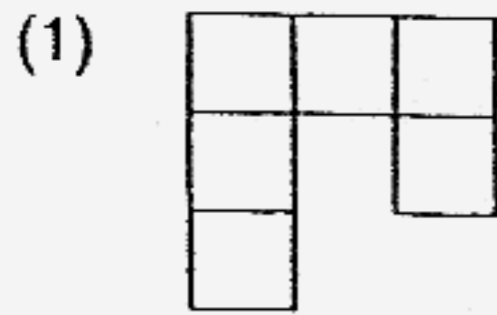
4. The area of a square is 64 m². What is its perimeter?

    (1) 8 m

    (2) 16 m

    (3) 28 m

    (4) 32 m

1

5. 1000 pupils were asked to choose a game for their CCA. The table represents their choices. How many pupils chose soccer?
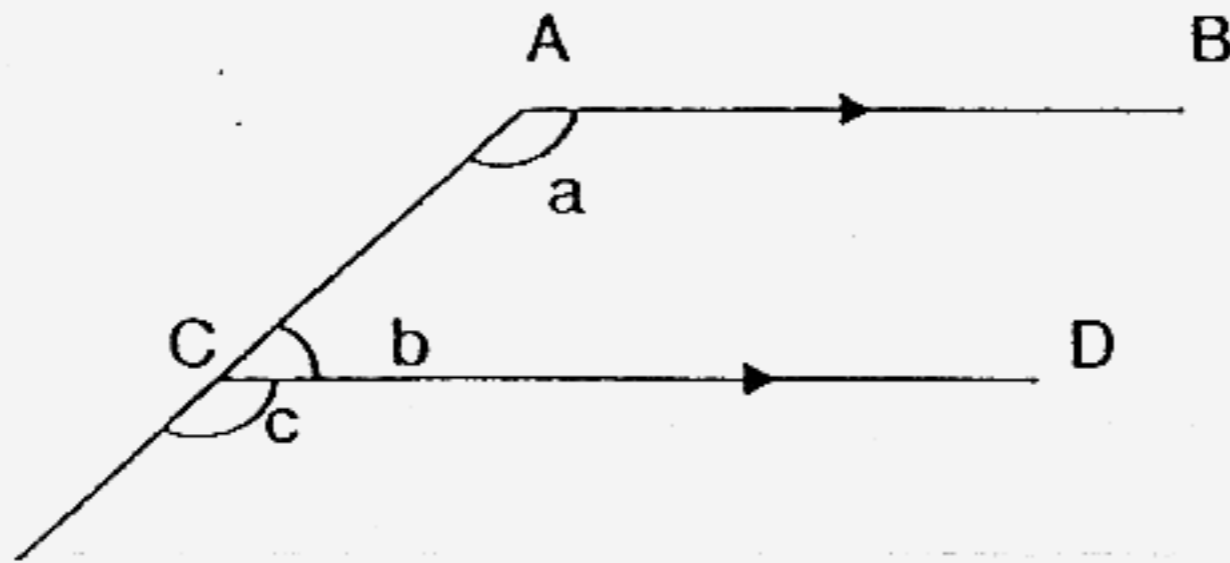
Game	Percentage
Tennis	35%
Volleyball	17%
Soccer	?
Badminton	25%

(1) 170

(2) 230

(3) 250

(4) 350

6. Which of the following is a net of a cube?

(1)

(2)

(3)

(4)

2

7. In the figure, not drawn to scale, all lines are straight lines. AB is parallel to CD. Which one of the following statements is true?

(1) $\angle a = \angle b$

(2) $\angle b = \angle c$

(3) $\angle a = \angle c$

(4) $\angle a + \angle b = \angle c$

8. The table below shows the rate for hiring canoes at the MacRitchie Reservoir.

First hour	$15
Every additional $\frac{1}{2}$ h or part thereof	$6.50

Peter hired a canoe from 9.15 am to 12.00 pm. How much did he pay?

(1) $34.50

(2) $41

(3) $47.50

(4) $54

3

9. Beatrice, Irene and Shirley shared a sum of money in the ratio of 2 : 5 : 7. Express Beatrice's share as a fraction of the total sum of money.

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

    (2) $\frac{1}{5}$

    (3) $\frac{1}{6}$

    (4) $\frac{1}{7}$

10. The result of $5y - 7 - 3y + 9$ is _____.

    (1) $2y - 16$
    (2) $2y + 2$
    (3) $8y - 16$
    (4) $8y + 16$

11. A van travelled at an uniform speed of 72 km/h for $3\frac{1}{2}$ h. It then travelled another

    12 km for $\frac{1}{2}$ hour. Find the average speed of the van for the whole journey.

    (1) 60 km/h
    (2) 66 km/h
    (3) 72 km/h
    (4) 84 km/h

12. How many 1-cm cubes can fill an empty cube with a volume of 1000 cm^3 ?
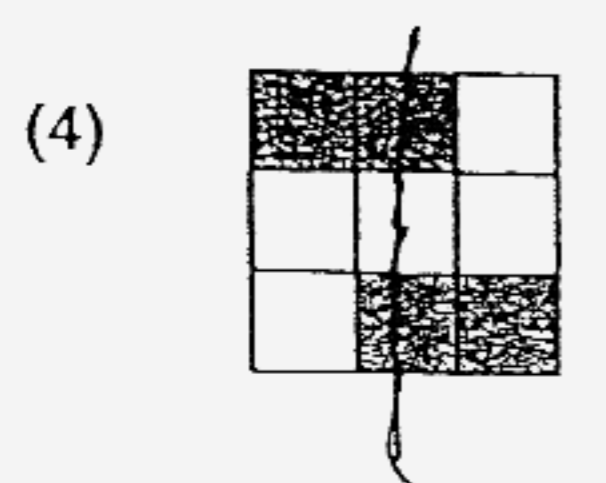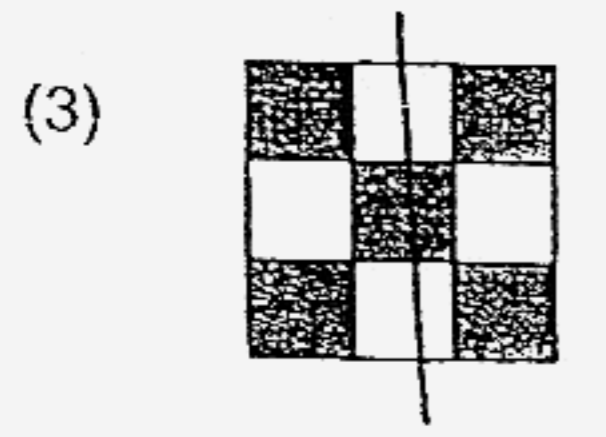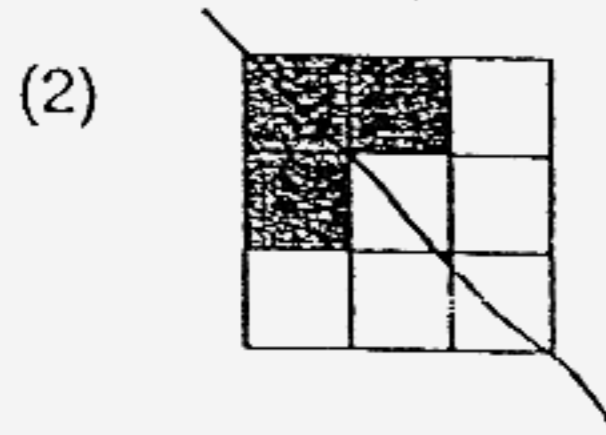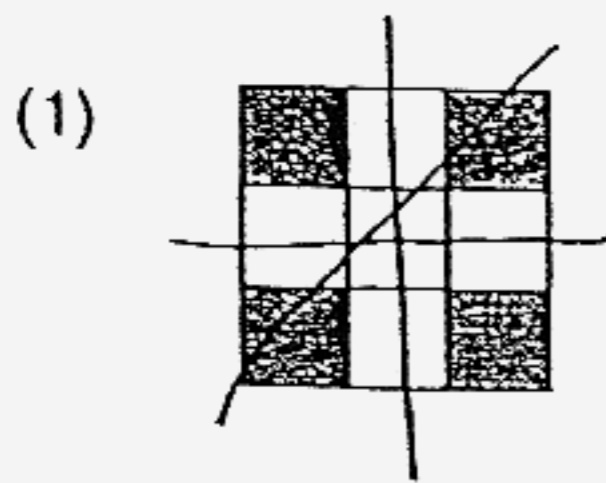
    (1) 100
    (2) 1000
    (3) 10 000
    (4) 1 000 000

4

13. A tank measures 15 cm long, 24 cm wide and 20 cm deep contains 5760 cm³ of water. What is the height of the water level?

    (1)   12 cm

    (2)   15 cm

    (3)   16 cm

    (4)   19 cm

14. Which of the following figures does not have a line of symmetry?

    (1)

    (2)

    (3)

    (4)

15. The ratio of the number of boys to the number of girls in a class was 8 : 5. When 12 boys left the class, the number of boys and girls who were left behind was the same. How many children were there at first?

    (1) 20
    (2) 32
    (3) 52
    (4) 60

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)

16. Use all of the digits 2, 5, 0, 9 to form the smallest four-digit **odd** number that is divisible by 5.

Ans: _____

17. Arrange these fractions in ascending order:

$$\frac{3}{5} \ , \ \frac{3}{2} \ , \ \frac{3}{8}$$

Ans: _____, _____, _____

18. What is the largest whole number that can be rounded off to 500?

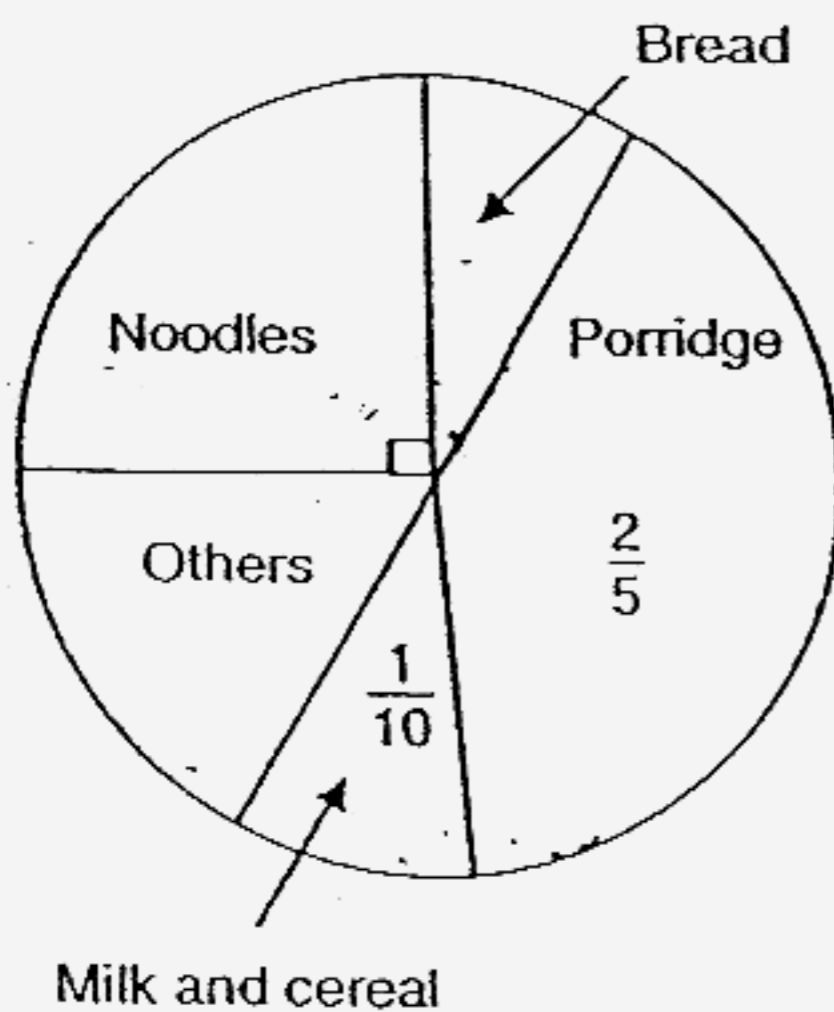Ans: _____

7

19. What is the circumference of a circle with radius 6 m? (Take $\pi = 3.14$)

Ans: _____ m

20. How many circles of radius 7 cm can be cut off from a rectangular piece of paper measuring 42 cm by 30 cm?
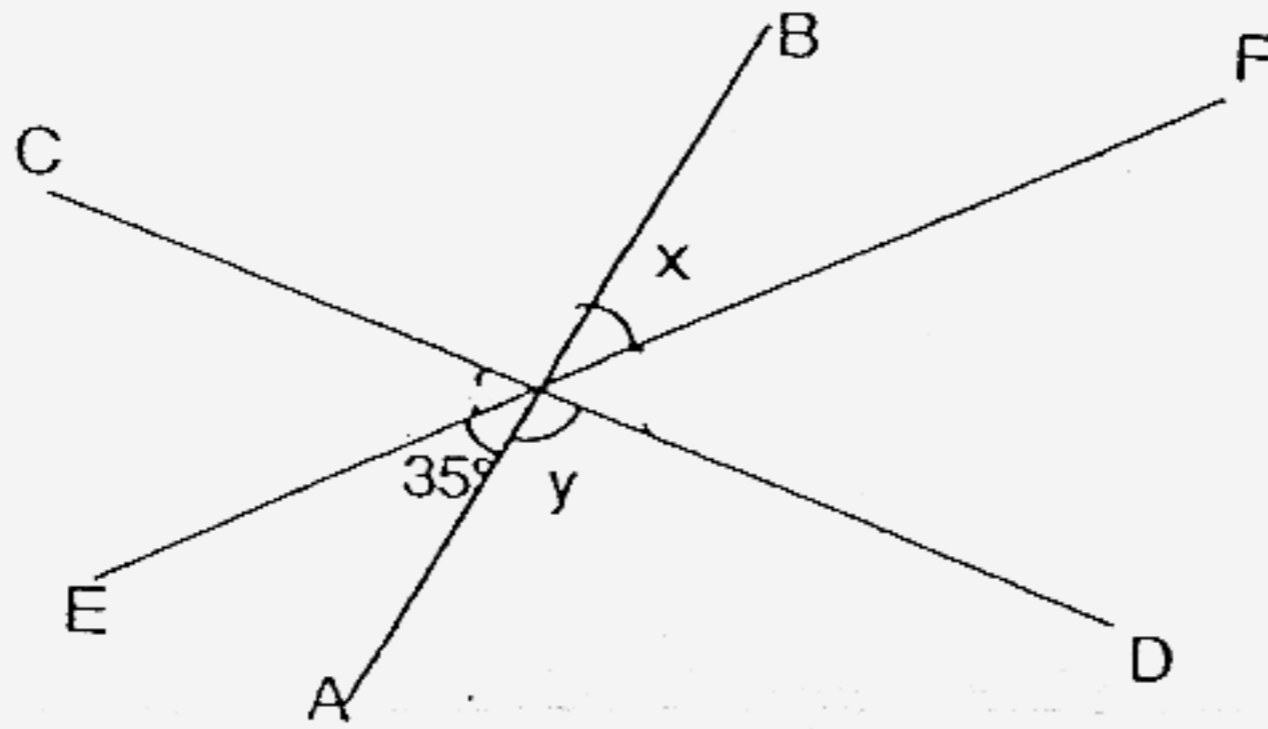
Ans: _____

21. The pie chart below shows the choice of preference of breakfast of 400 pupils in a school. How many pupils choose either bread or others for breakfast?

Ans: _____

22. In the figure below, all the angles are not drawn to scale. AB, CD and EF are straight lines. $\angle x$ is $\frac{1}{2}$ of $\angle y$. Find the value of $\angle y$.

Ans: _____ °

23. Write down the letter(s) which has / have the dotted line as a line of symmetry.
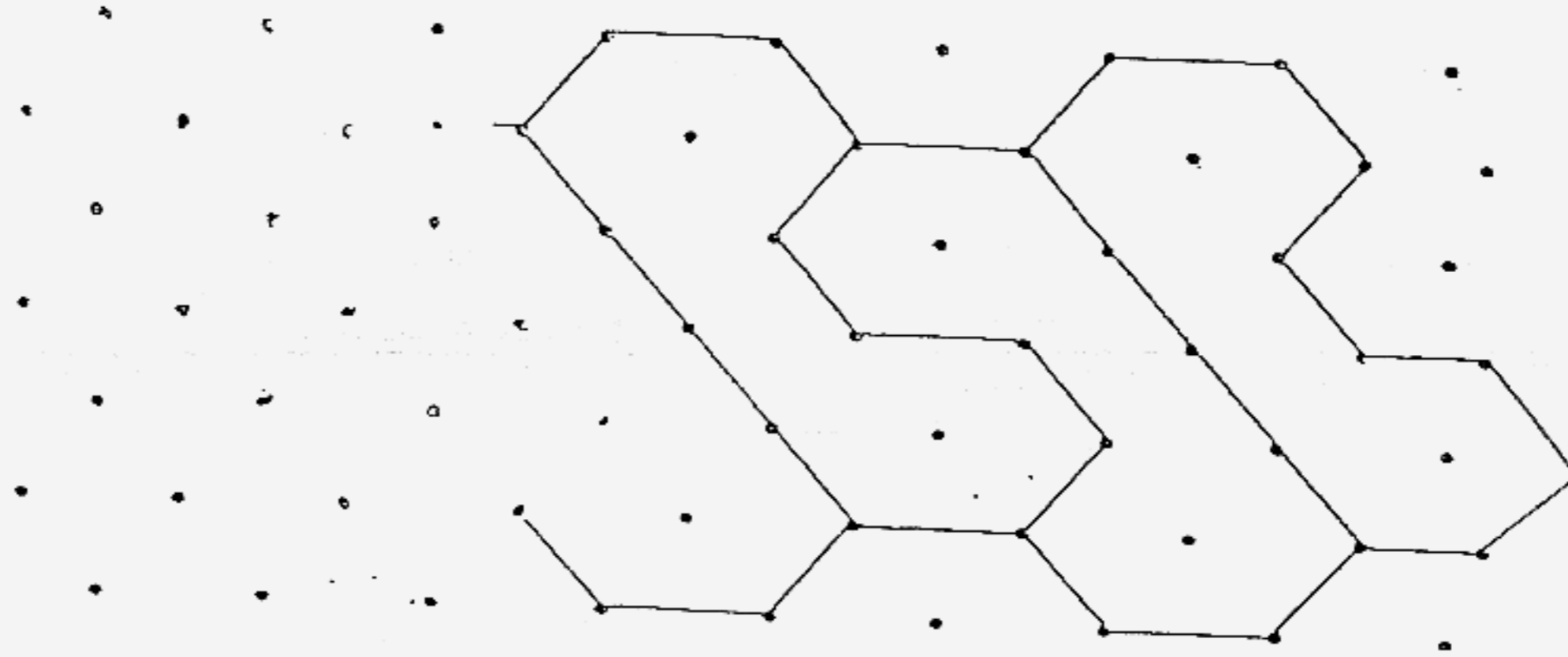

Ans: _____

24. A typist can type 85 words per minute. How long will she take to finish a report of 9350 words?

Ans: _____ minutes

25. Shade the unit shape that tessellates the figure in the space provided.

Rosyth School
Preliminary Examination 2006
Mathematics
Primary 6

Name: _____

Class: Pr 6-_____   Register No. _____

Date: 22 Aug 2006

Parent's Signature: _____

BOOKLET B

<u>Instructions to Pupils:</u>
1. Do not open this booklet until you are told to do so.
2. Follow all instructions carefully.
3. For questions 26 to 48, show all relevant working in the spaces provided.
4. ANSWER ALL THE QUESTIONS.

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)

26. The average mass of 4 girls, Gale, Nancy, Ravi and Fiona is 4p kg.
Gale weighs 2p kg, Nancy weighs p kg and Ravi weighs 56 kg.
What is the mass of Fiona?

Ans: _____ kg

27. A number of coloured balls are in a basket. There are 145 more red balls than white balls. There are 358 more white balls than black balls. How many more red balls than black balls are there?

Ans: _____

28. A shopkeeper bought 52 eggs. She threw away 7 rotten eggs and sold the rest at $0.80 for 5 eggs. How much money did she collect in all after selling the eggs?

Ans: $_____

29. Line AB, 7 cm long is given below.

Draw an isosceles triangle ABC and ∠ABC = 90°.

A ————————————————— B

www.misskoh.com
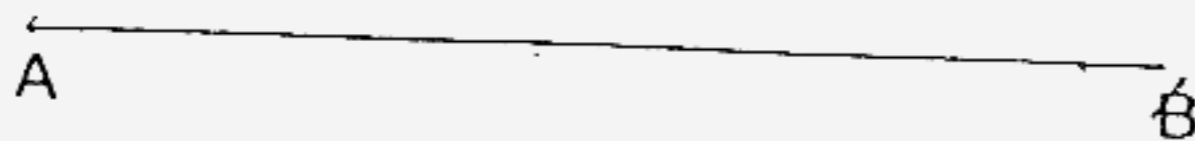
30. Mr Jamil bought a plasma TV set for which he had to pay a deposit of 35% of the selling price. How much was the deposit if the balance of the payment of the plasma TV set was $1 625?

Ans: $_____

31. Tammy has 24 fifty-cent coins. If she were to arrange all the coins to form the outline of a rhombus, what would be the total value of the coins on one side of the rhombus?

Ans: $_____

13

32. Raj, Siva and Paul had $700 altogether. Raj spent $\frac{1}{3}$ of his money, Siva spent $52 and Paul spent twice the amount of what Raj spent. The three of them had the same amount of money left. How much did Raj have at first?

Ans: $_____

33. The graph below shows the distance travelled by Mark in 4 hours. What was Mark's average speed ?

Distance (km)

Time (Hours)
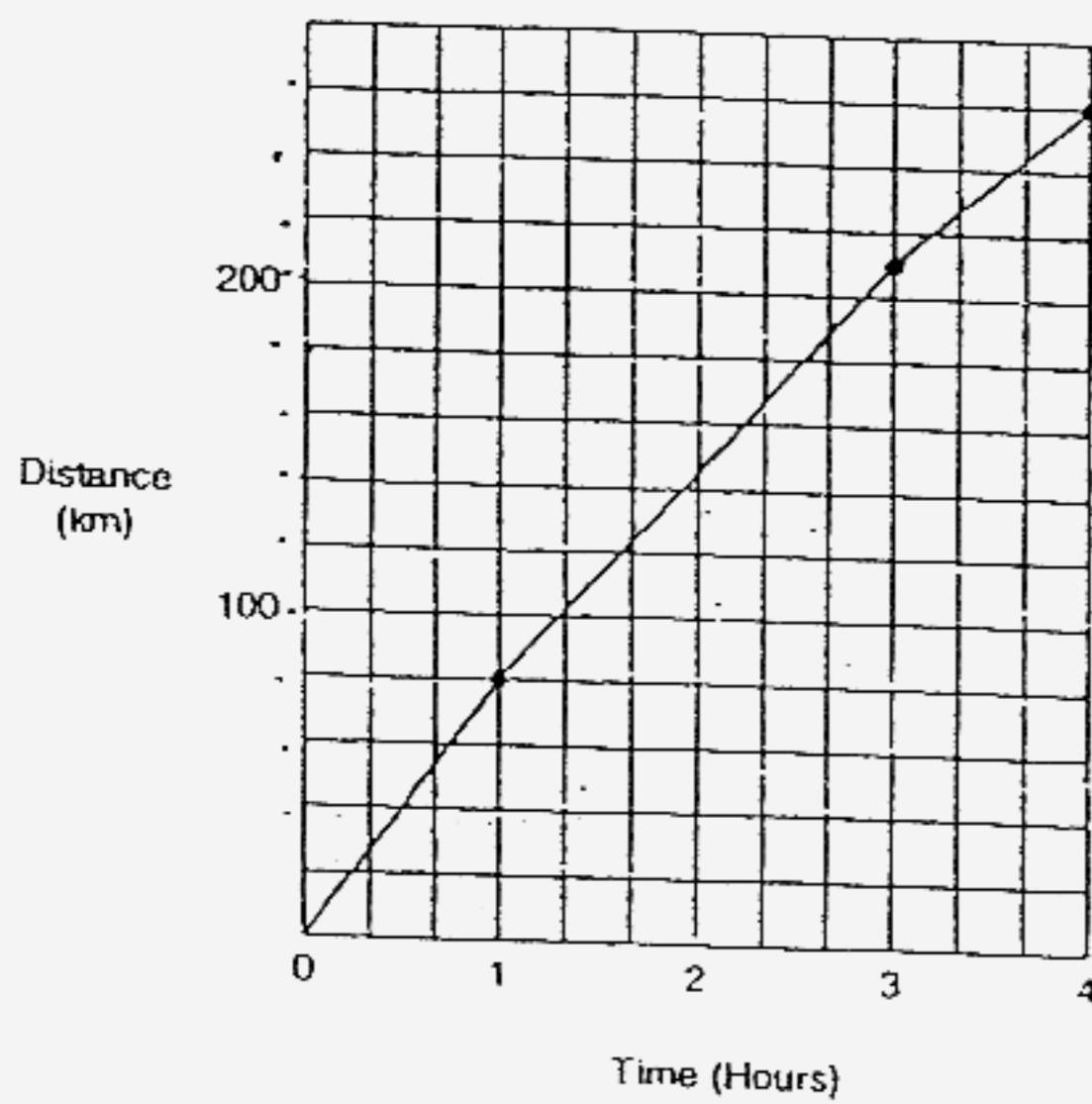
Ans: _____ km / h

34. For every 10 tickets purchased, a 20% discount will be given to the 10th ticket. If each ticket cost $8.50, how much did Keith have to pay for 12 tickets?

Ans: $_____

35. Daniel is thinking of three consecutive odd numbers. The average of the first and second number is 40, while the average of the second and third number is 42. List the three numbers.

Ans: _____, _____, _____

Section C

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

The marks for each question or part-question is shown in brackets ( ) at the end of each question.

(50 marks)

36. $\frac{1}{4}$ of Edmund's savings is the same as $\frac{1}{6}$ of Rob's savings. The difference in their savings is $\frac{1}{5}$ of Kenny's savings. Given that the total savings of the 3 boys is $340, how much money does Rob save?

Ans : _____(3m)

37. The figure below consists of two overlapping shapes, a square and a triangle. The ratio of the area of the square to the area of the triangle is 2 : 3.

$\frac{1}{8}$ of the square is shaded. The shaded area in the figure is 15 cm². Find the area of the <u>unshaded</u> part of the figure.

Ans : _____(3m)

16
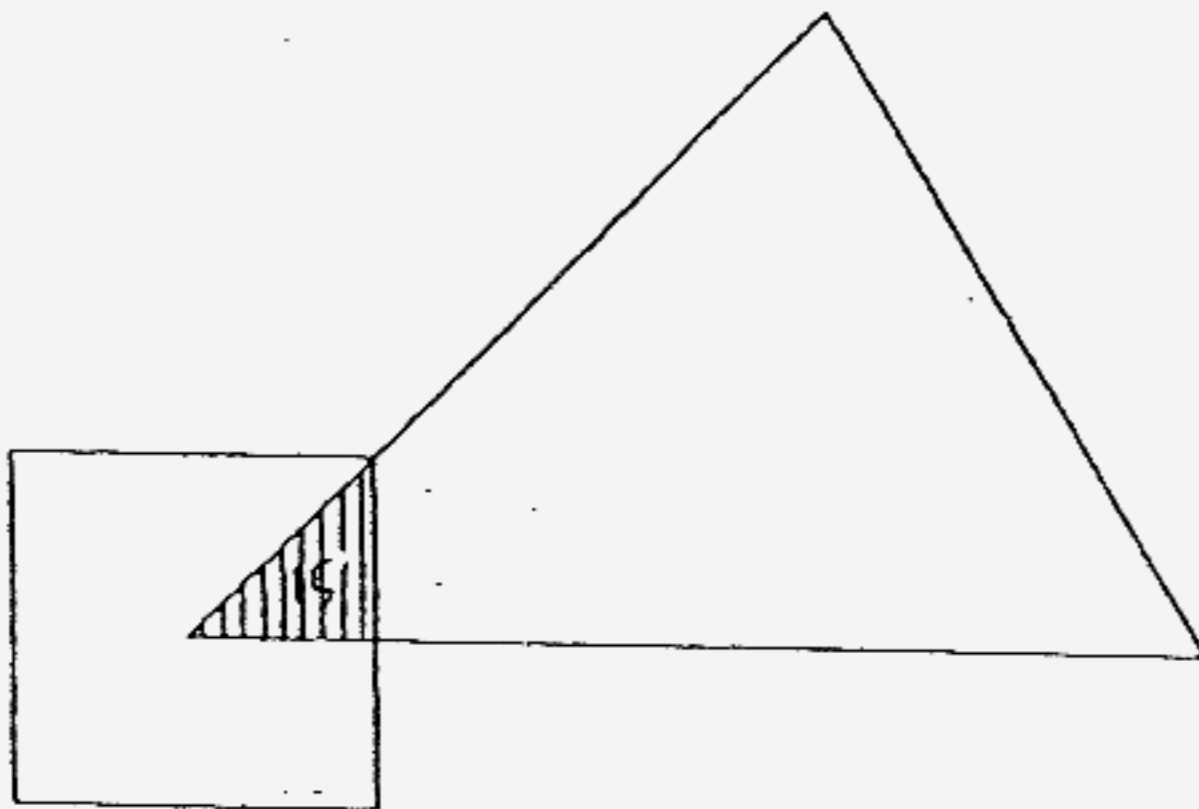
38. The pie chart shows the different kinds of fruits sold by Uncle Lim. He sold 425 mangoes. How many durians did he sell?
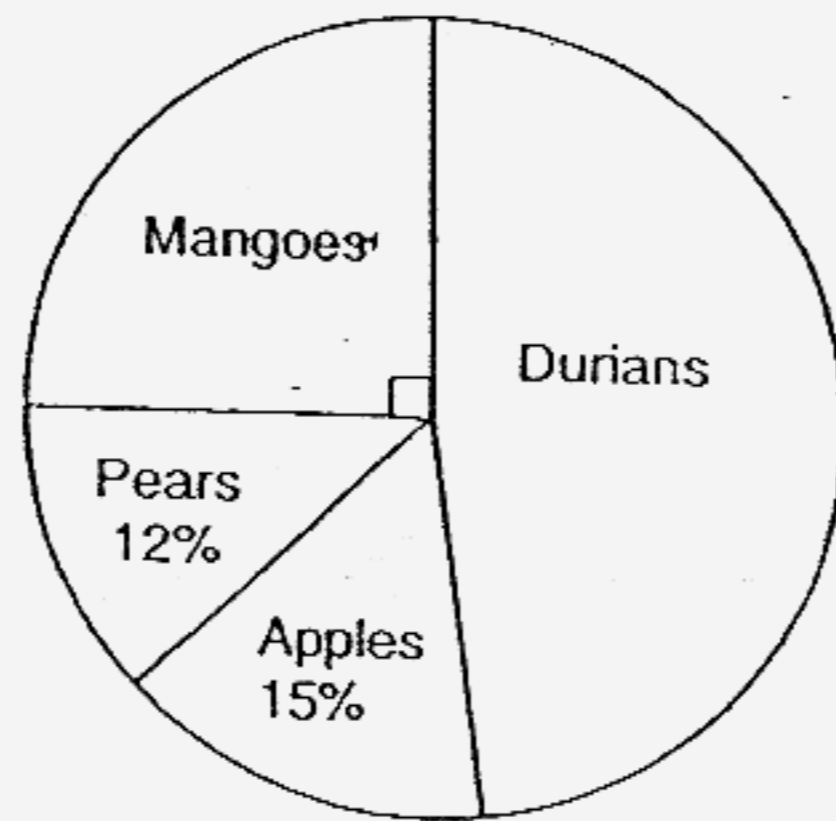
Ans : _____(3m)

39. Paul would like to send a parcel to his friend in ABC country.
The freight charge is $8.00 per kg per km.
What is the total charge for sending the parcel weighing 12 kg for 35km?

Ans : _____(3m)

17

40. The ratio of the number of girls to the number of boys in school A was 4:7.
The ratio of the number of girls to the number of boys in school B was 3:8.
The total number of pupils in school A was twice the total number of pupils in school B. Find the ratio of the number of boys in school A to the number of boys in school B. (Express your answer in its simplest form)

Ans : _____(3m)

41. In the figure below, AB is parallel to DE and ACDG is parallel to EF.
ABC is an isosceles triangle with $\angle ABC = 36°$. Find $\angle DEF$.
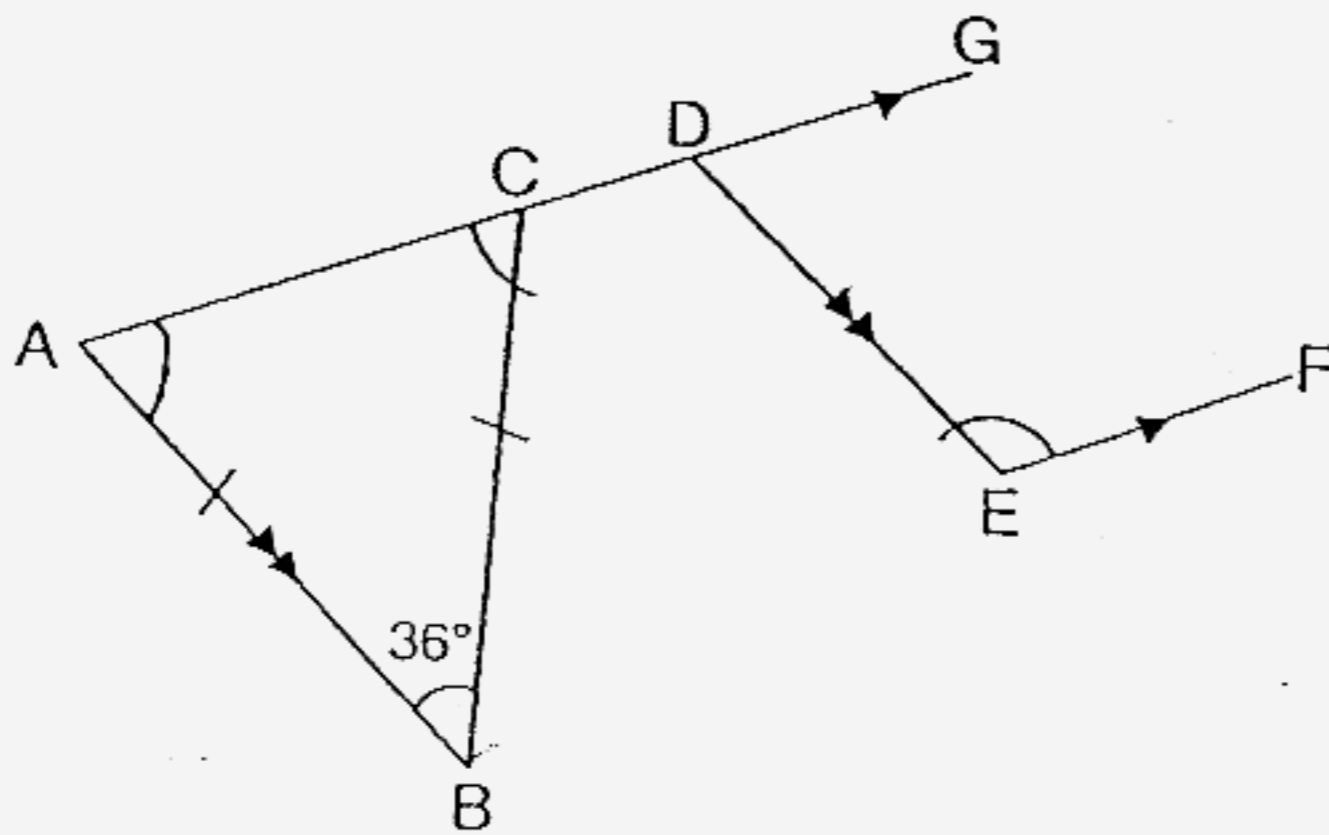
Ans : _____(3m)

42. The average mass of Bob and his five friends is 43 kg. Bob is 3 kg heavier than the average mass of his five friends. Find the mass of Bob.

Ans : _____(4m)

43. Mrs Yu paid $16.20 for some erasers and pencils. An eraser cost 15 cents and a pencil cost 45 cents. She bought 12 more pencils than erasers. How many erasers did she buy?

Ans : _____(4m)

44. A rectangular tank 2.5 metres long and 1.2 metres wide is filled with water from two taps. Tap A fills it with water at the rate of 12 litres per minute and Tap B fills it up with water at the rate of 15 litres per minute. Both taps are turned on at the same time. What is the height of the water in the tank after 8 minutes? (1 litre = 1 000 cm³)

Ans : _____(4m)

45. Ali, Billy and Caven had some cards. Ali would have twice as many cards as Billy if Billy gave 28 cards to Ali. Both Billy and Caven would have the same number of cards if Caven gave 84 cards to Billy. Given that Caven had 112 more cards than Ali at the beginning, find the number of cards each of them had at the beginning.

Ans : Ali _____, Billy _____, Caven _____ (5m)

46. At a fun fair, there were 49 more children than women. There were $\frac{3}{5}$ as many men as women. Given that the number of women was 25% of the total number of people at the fun fair, how many people were at the fun fair?

Ans : _____(5m)

47. The figure below is formed by two right-angled triangles, a circle and a semicircle. Given that AB=BC=BD= 10 cm and AD=CD= 14 cm, find

a) the area of the shaded parts.

b) the perimeter of the figure.

(Take π =3.14)
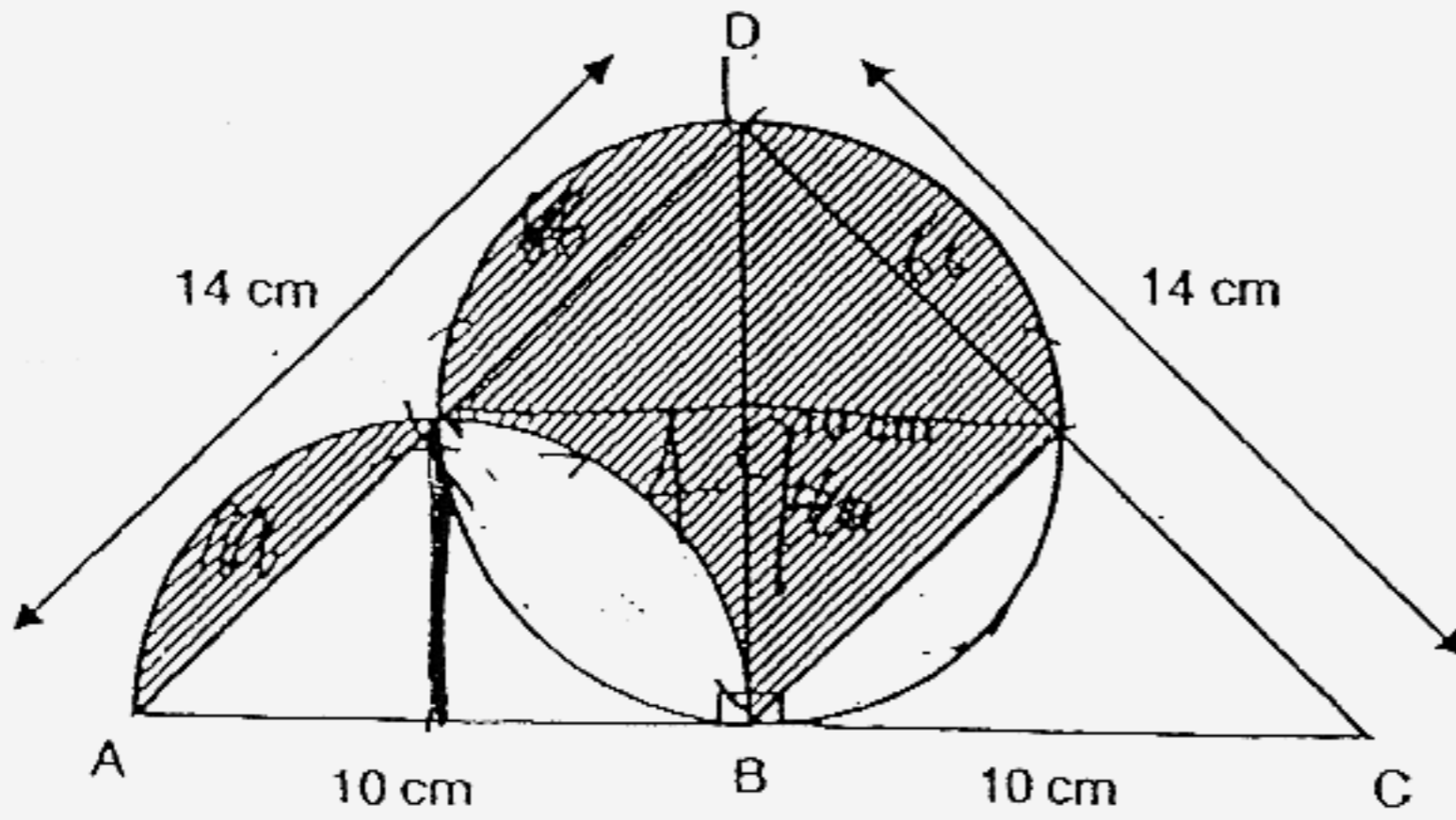
Ans : a)_____(3m)

b)_____(2m)

48. Mr Wong and Mrs Wong left their house in the same car for Town P. Mr Wong drove at a speed of 60 km/h. Realising that he left his lap-top at home, he let Mrs Wong alight at a bus-stop and drove back to his house. Mrs Wong walked from the bus-stop at a speed of 4 km/h to Town P. It took her 45 min to reach Town P. Both Mr Wong and Mrs Wong arrived at Town P at the same time. Find the distance between their house and Town P.

Ans :_____(5m)

End of Paper
Please check your work carefully.

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

16. 2095

17. $\dfrac{3}{8}, \dfrac{3}{5}, \dfrac{3}{2}$

18. 549

19. 3.14 x 12 = 37.68m

20. 6 circles

21. 400 ÷ 2 = 20
    20 x 5 = 100 pupils

22. 70°

23. H, B

24 110 minuts

25.

26.	4p x 4 = 16p	27.	358 + 145 = 503
	16p − 2p − p − 56 = 13p − 56		
28.	52 − 7 = 45	29.	
	45 ÷ 5 = 9 9 x 0.80 = \$7.20		
30.	1625 ÷ 65 = 25 25 x 35 = \$875	31.	\$3.50

32.	$648 \div 9 = 72$ $72 \times 3 = \$216$	33.	$260 \div 4 = 65$ km/hr
34.	$8.50 \times 11 = 93.50$ $8.50 \div 5 = 1.70$ $8.50 - 1.70 = 6.80$ $6.80 + 93.50 = \$100.30$	35.	$39 , 41 , 43$
36.	$340 \div (6 + 4 + 10) = 17$ $17 \times 6 = \underline{102}$ (Ans)	37.	$15 \times 8 = 120$ $120 - 15 = 105$ $120 \div 2 = 60$ $60 \times 3 = 180$ $180 - 15 = 165$ $165 + 105 = \underline{270 \text{ cm}^2}$ (Ans)
38.	$100 - 25 - 15 - 12 = 48$ $425 \div 25 = 17$ $17 \times 48 = \underline{816}$ durians (Ans)	39.	1km = \$8.00/kg 35km = \$280.00/kg 1kg = \$2.80 12kg = \underline{\$33.60/kg} (Ans)
40.	<u>A</u> <u>B</u> G : B G : B 4 : 7 3 : 8 8 : 14 14 : 8 <u>7 : 4</u> (Ans)	41.	$180° - 36° = 144°$ $144° \div 2 = 72°$ $180° - 72° = \underline{108°}$ (Ans)

42.	$3 \div 6 = 0.5$
	$0.5 \times 5 = 2.5$
	$43 + 2.5 = \underline{45.5 \text{ kg}}$ (Ans)
		43.	Erasers + Pencils = \$16.20
			12 Pencils = 0.45×12
			          = \$5.40
			          = \$(16.20 - 5.40)
			          = \$10.80
			Pencils + Eraserts
			= 45 + 15
			= 60¢
			= 1080 \div 60
			= <u>18 erasers</u> (Ans)

44.	2.5 = 250cm 1.2 = 120cm	45.	28 x 4 = 112
	250 x 120 = 30000		112 + 28 + 28 + 28 = 196 (Ali)
	12 + 15 = 17		112 + 28 = 140
	27 x 8 = 216		112 + (28 x 4) + 84 = 308
	$216\ell = 216000cm^3$		Ali = 96
	2160000 ÷ 30000		Billy = 140
	$= 7\dfrac{1}{5}$ cm (Ans)		Caven : 308

46.	25 ÷ 5 = 5	47a.	Shaded part =
	5 x 3 = 15		$\dfrac{1}{2}$ (Area of ΔABD/BCD/ Area of semicircle)
	100 − 15 − 25 − 25 = 35		$= \dfrac{1}{2}(\dfrac{1}{2}$ x 10 x 10)x $\dfrac{1}{2}$ x 3.14x 5 x 5
	35% = 49		$= 25cm^2 + 39.25cm^2$
	49 ÷ 7 = 7 (5%)		$= \underline{64.25cm^2}$ (Ans)
	7 x 20 = 140	47b.	3.14 x 10 x $\dfrac{1}{2}$ = 15.7
	There are <u>140 people</u> (Ans)		15.7 ÷ 2 = 7.85
			7.85 + 10 + 10 + 7 + 15.70
			$= \underline{50.55cm}$ (Ans)

48.	45 − 3 = 42		
	42 ÷ 2 = 21		
	4 ÷ 4 = 1		
	1 x 3 = 3		
	21 + 3 = <u>24 km</u> (Ans)		