



RED SWASTIKA SCHOOL

RED SWASTIKA SCHOOL

2008 MID-YEAR EXAMINATION

MATHEMATICS

Name : _____

Class : Primary 6 / _____

Date : 6 May 2008

BOOKLET A

15 Questions

20 Marks

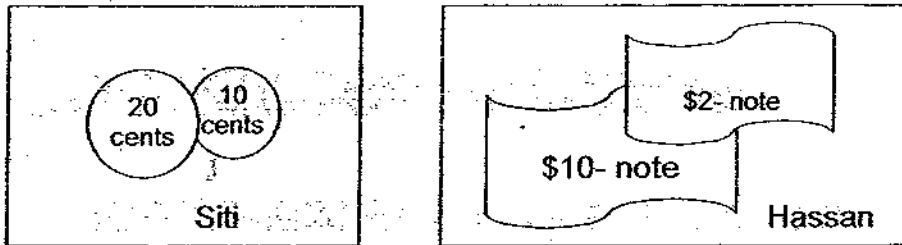
Duration of Paper : 2 hours 15 minutes

Note:

1. Do not open this Booklet until you are told to do so.
2. Questions 1 - 15 are to be done on the OAS provided.
3. Read carefully the instructions given at the beginning of each part of the Booklet.
4. Do not waste time. If a question is difficult for you, go on to the next one.
5. Check your answers thoroughly and make sure you attempt every question.

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 The amount of money Siti and Hassan had is shown below.



Find the ratio of the amount of money Siti had to the amount of money Hassan had.

- (1) 1 : 1
- (2) 1 : 40
- (3) 1 : 100
- (4) 5 : 2

2 What percentage of the letters in the word 'COOL' is made up of the letter 'O'?

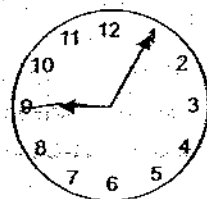
- (1) 20%
- (2) 40%
- (3) 50%
- (4) 75%

3 A cyclist was travelling at an average speed of 4 m/s. He took 12 s to cycle through a tunnel. Find the length of the tunnel.

- (1) 48 m
- (2) 16 m
- (3) 3 m
- (4) 8 m

4 What is the area of the circular face of the clock with diameter 14 cm?

(Take $\pi = \frac{22}{7}$)



- (1) 44 cm²
- (2) 88 cm²
- (3) 154 cm²
- (4) 616 cm²

5 Lisa is t years old. Billy is twice as old as she is. What is their total age in terms of t ?

- (1) $2t$ years old
- (2) $3t$ years old
- (3) $(t + 2)$ years old
- (4) $(t + 3)$ years old

6 The table below shows the number of fruit trees in an orchard.

Type of tree	Number of trees
Rambutan	22
Mango	38
Durian	?

If 20% of the fruit trees in the orchard are durian trees, how many durian trees are there?

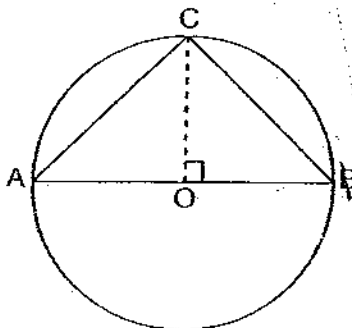
- (1) 12
- (2) 15
- (3) 20
- (4) 48

7 A train travelled at 25 m/s. How many kilometres did it travel in 50 minutes?

- (1) 75 km
- (2) 12.5 km
- (3) 1.25 km
- (4) 0.5 km

8 The figure below, which is not drawn to scale, shows a triangle ABC enclosed in a circle. O is the centre of the circle. The diameter of the circle is 3 m. Find the area of triangle ABC.

- (1) 1.5 m^2
- (2) 2.25 m^2
- (3) 4.5 m^2
- (4) 9 m^2



- 9 Small blocks of size 2 cm by 2 cm by 2 cm were arranged to form a large cube as shown below in Figure 1. Peter removed some small blocks from the large cube that was formed. Figure 2 showed what was left of the small blocks.

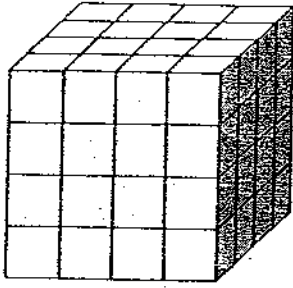


Figure 1

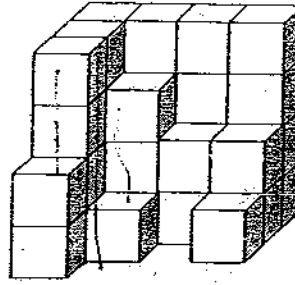
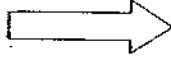
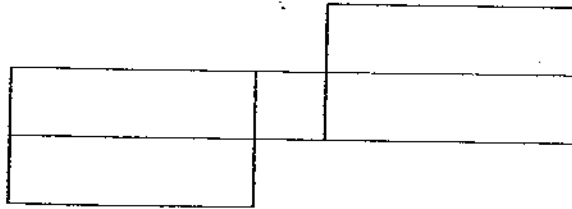


Figure 2

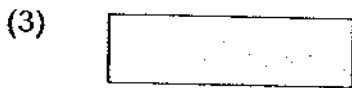
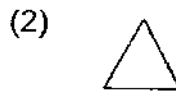
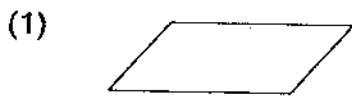
How many small blocks did Peter remove?

- (1) 27
- (2) 28
- (3) 29
- (4) 30

- 10 The following figure which is not drawn to scale, is the net of a cuboid.



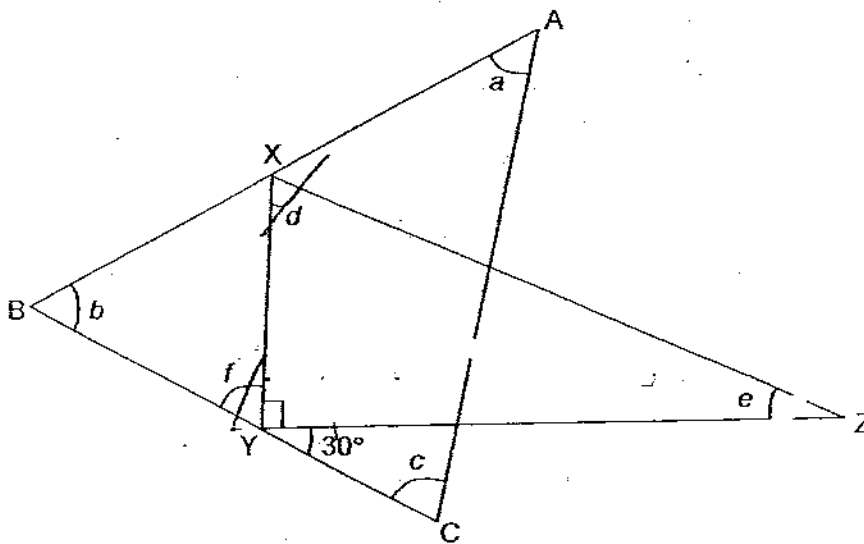
The net is incomplete as one face is missing. Identify the shape that is missing from the net.



- 11 Mrs Tay ate $\frac{1}{6}$ of a pizza. Her daughter ate $\frac{2}{5}$ of the remainder and her son ate the rest. What was the ratio of her share to her daughter's share to her son's share?

- (1) 1 : 2 : 3
- (2) 1 : 3 : 2
- (3) 6 : 3 : 5
- (4) 6 : 2 : 3

- 12 In the figure below, not drawn to scale, there are two overlapping triangles, ABC and XYZ. Find the sum of $\angle a$, $\angle b$, $\angle c$, $\angle d$, $\angle e$ and $\angle f$.

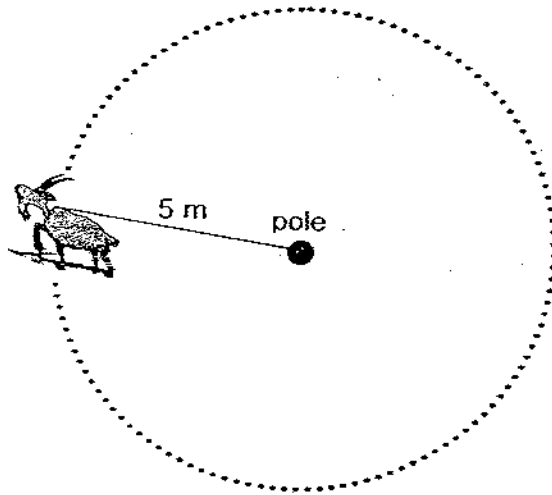


- (1) 300°
 - (2) 330°
 - (3) 480°
 - (4) 540°
- 13 Alan, Bob and Carl share a sum of money. Bob receives \$4000. Alan receives 20% more than Bob and Carl receives 10% less than Alan. How much more money does Carl receive than Bob?

- (1) \$320
- (2) \$400
- (3) \$480
- (4) \$800

- 14 Mrs Tan left her house at 09 45. She took 35 minutes to travel to a hair saloon. She spent 1 h 30 min at the saloon. She then took 40 min to reach her friend's house. At what time did she arrive at her friend's house?
- (1) 12 15
 - (2) 12 30
 - (3) 12 45
 - (4) 12 50

- 15 A goat is tied with a rope to a pole in the centre of a circular field. When the goat stretches the rope outwards, the rope would be able to stretch to a maximum length of 5 metres as shown in the diagram below.



The goat eats an average of 1 m^2 of grass in 20 minutes. What is the shortest time it would take to eat all the grass within its reach?

(Take $\pi = 3.14$)

- (1) 315 min
- (2) 628 min
- (3) 1570 min
- (4) 3140 min



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MATHEMATICS

Name : _____

Class : Primary 6 _____

Date : 6 May 2008.

BOOKLET B

33 Questions
80 Marks

MARKS

	OBTAINED	POSSIBLE
BOOKLET A		20
BOOKLET B		80
TOTAL		100

Parent's Signature : _____

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)

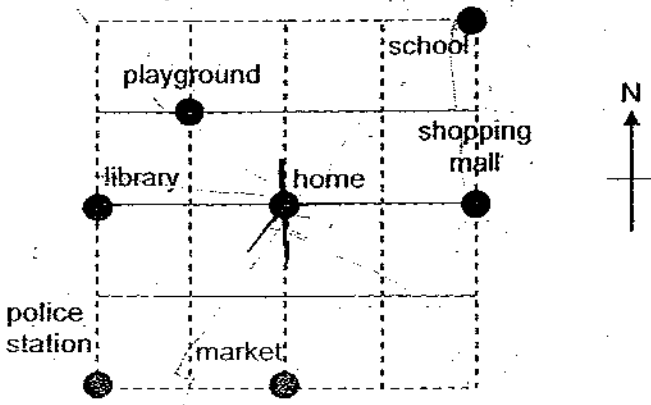
16 Ali mixes 2 litres of lemon juice with 5 litres of water to get the lemonade he wants. If he uses 8 litres of water, how much lemon juice does he need?

Ans: _____

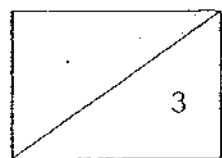
17 Find the average of $\frac{1}{8}$, $\frac{1}{4}$ and $\frac{5}{8}$.

Ans: _____

18 Melissa is at home and facing the direction where the school is. She makes a 225° turn in a clockwise direction. Which of the following places in the diagram is Melissa facing now?



Ans: _____



19 Find the value of the expression $14x - 5 - 9x + 8$ when $x = 3$.

Ans: _____



20 Find the value of $\frac{3}{5} \div 15$.

Ans: _____

21 A mug is $\frac{1}{3}$ filled with water. The water is then poured into an empty jug which has a volume twice that of the mug. What fraction of the jug is filled with water?

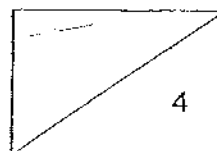
Ans: _____

22 The table below shows the marks scored by 4 pupils in a test. The average mark scored by them was 75.

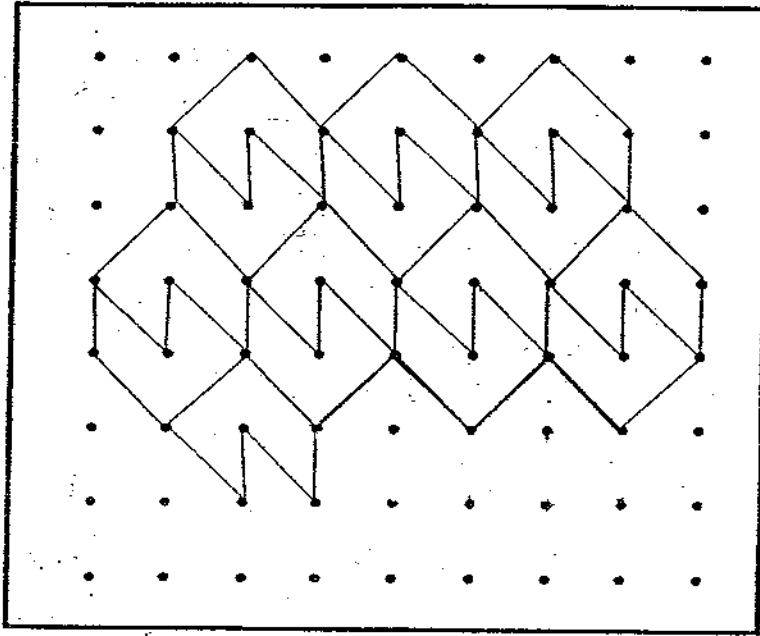
Pupil	Amy	Ben	Cathy	Don
Marks scored	80		64	

If Don scored 8 marks more than Cathy, what was Ben's score?

Ans: _____



- 23 The pattern in the box shows part of a tessellation. Extend the tessellation by drawing **two** more unit shapes in the space provided within the box.

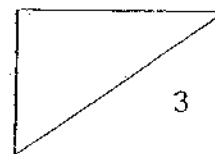


- 24 A solid metal cuboid 18 cm by 4 cm by 3 cm is melted down and recast into the shape of a cube. What is the length of each side of the cube?

Ans: _____ cm

- 25 $\frac{2}{3}$ of A is equal to $\frac{1}{4}$ of B. What fraction of B is A?

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)

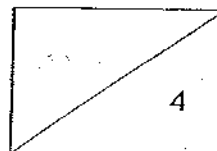
26 The price of 1 kg of prawn is $2\frac{1}{2}$ times that of 1 kg of shrimp.

A customer needs to buy \$10 each of the prawn and shrimp. What is the ratio of the mass of prawn to the mass of shrimp that she would be able to buy?

Ans: _____

27 The usual price of a cupboard was \$500. During a sale, Mr Lee bought the cupboard at a discount of 10%. He also had to pay 7% GST on the selling price. How much did Mr Lee pay for the cupboard?

Ans: \$ _____

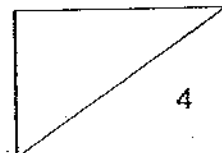


- 28 Peter has \$2-notes, 50-cent coins and 20-cent coins in his piggy bank. Among the number of notes and coins, 60% are \$2-notes and the rest are coins. If 25% of the coins are 50-cent coins and he has a total amount of \$39.30 in his piggy bank, how many 20-cent coins are there?

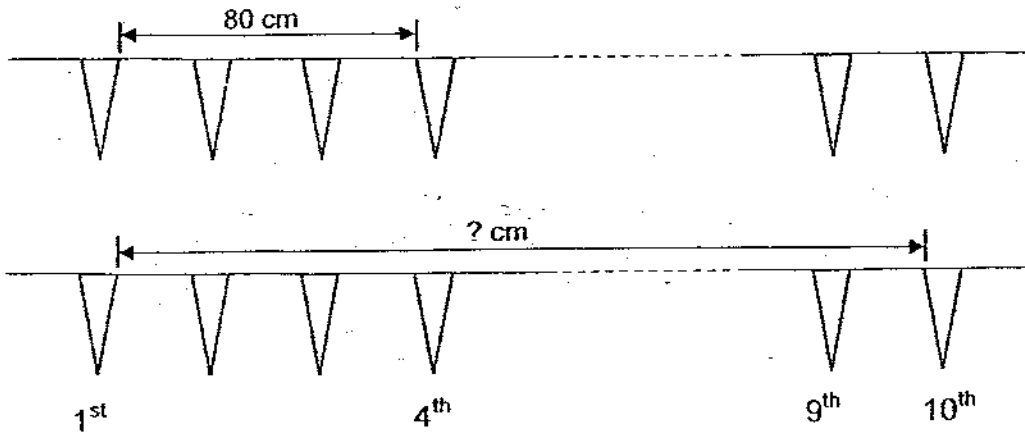
Ans: _____

- 29 A train took 45 minutes to travel from Town A to Town B. As the train left Town A 10 minutes later than scheduled, it reached Town B at 10.30 p.m. What should be the time of departure of the train if it had left on time at Town A?

Ans: _____

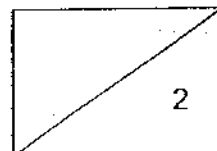


- 30 The banner shown below is made up of a length of string with triangular flags sewn on it at equal intervals. The length of string between the first flag and the fourth flag is 80 cm. The ratio of the length of one flag to the length of string between two flags is 1 : 2.

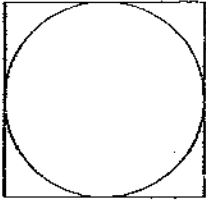


What is the length of the banner from the first flag to the tenth flag as shown in the figure above?

Ans: _____ cm



- 31 The figure below shows a circle enclosed in a square which has a perimeter of n cm. What is the radius of the circle? (Give your answer in terms of n .)



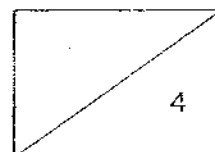
Ans: _____ cm

- 32 Mr Koh made an international call from his home to England. The rates were as follows:

First 3 minutes	\$5.60
Subsequent 1 minute or part thereof	\$2.20

The call lasted 5 minutes and 22 seconds. How much did he have to pay for the call?

Ans: \$ _____

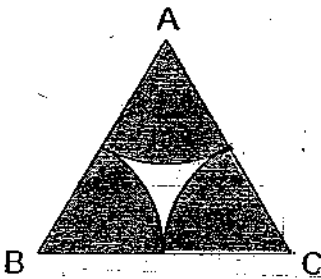


44

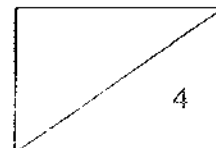
- 33 Mengli had some fruits. 80% of them were apples and the rest were oranges. He managed to sell 75% of the apples and $\frac{2}{3}$ of the oranges. Mengli found that he had 48 fruits left. How many fruits did Mengli have at first?

Ans: _____

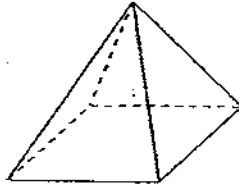
- 34 In the figure below, three shaded equal sections of a circle are arranged into an equilateral triangle ABC of side 14 cm long. Find the area of the shaded part. (Take $\pi = \frac{22}{7}$)



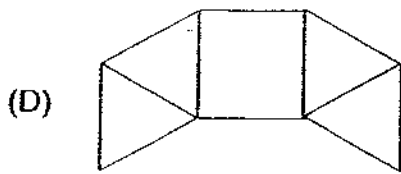
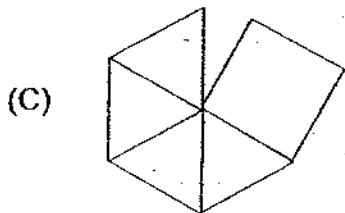
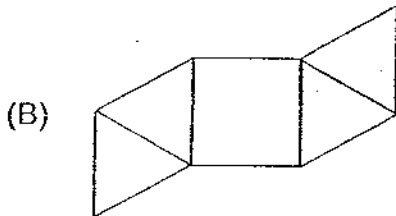
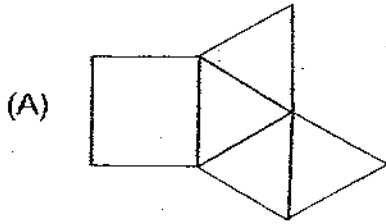
Ans: _____ cm^2



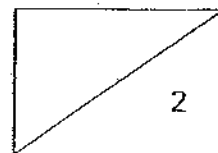
35 This figure below shows a solid.



Which two of the following are the nets of the solid?

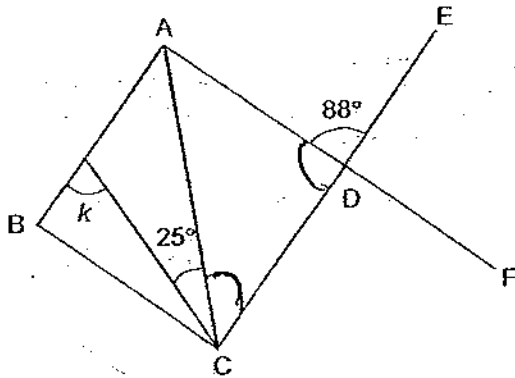


Ans: _____ and _____



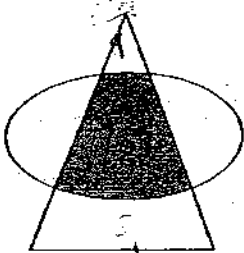
For Questions 36 to 48, show your working clearly in the space below each question and write your answers in the spaces provided.
 The number of marks available is shown in brackets [] at the end of each question or part-question. (50 marks)

36 In the figure below, ABCD is a rhombus. ADF and CDE are straight lines. Find $\angle k$.

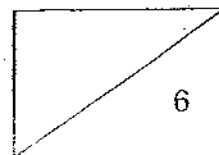


Ans: _____ [3]

37 The figure below is made up of an oval and a triangle overlapping each other. The ratio of the area of the unshaded part of the oval to the area of the unshaded part of the triangle is 11 : 9. If 70% of the triangle is shaded, what is the ratio of the area of the shaded part to the area of unshaded part of the whole figure?



Ans: _____ [3]

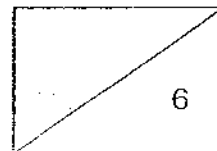


- 38 Mr Koh spent \$560 in March which was 35% of the salary he earned for that month. He saved the rest of his salary. In April, his salary increased by 40%. If he spent the same amount in both March and April, what percentage of his salary did he save in April?

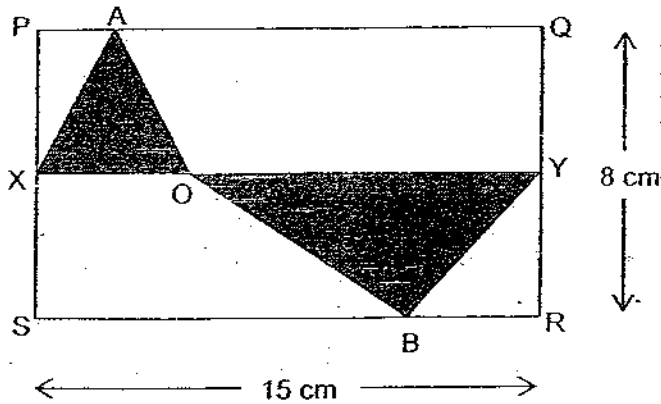
Ans: _____ [3]

- 39 Mrs Lee and her children left home at 11.00 a.m. and drove to a holiday resort at an average speed of 48 km/h. Her husband left home for the same holiday resort half an hour later. They drove along the same route. Mr Lee managed to meet up with his family at 1.30 p.m. along the way. Find Mr Lee's average speed.

Ans: _____ [3]

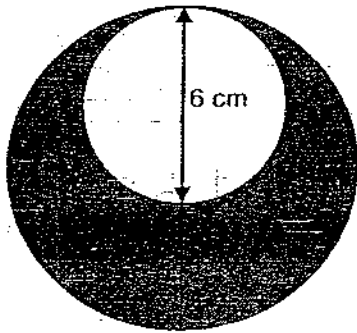


- 40 The figure below is made up of a rectangle PQRS and two triangles, AXO and BYO. $PX = XS$ and $QY = YR$. If $SR = 15$ cm and $QR = 8$ cm, what is the area of the shaded part?

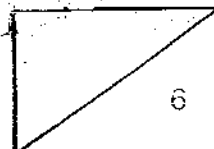


Ans: _____ [3]

- 41 The figure below is made up of two circles. The smaller circle has a diameter of 6 cm and the bigger circle has a diameter of 10 cm. Find the area of the shaded part. (Take $\pi = 3.14$)

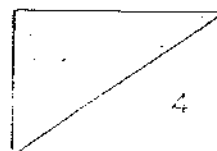


Ans: _____ [3]

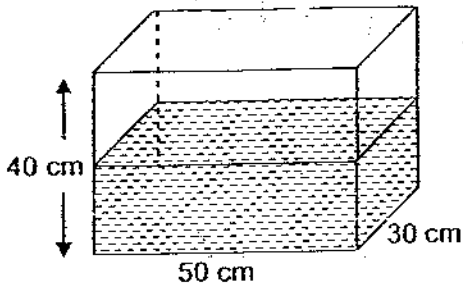


- 42 The ratio of the amount of money in John's savings account to the amount of money in Mohan's savings account was 12 : 7. John and Mohan shared the cost of a computer set in the ratio 3 : 2. John used up 50% of his savings to pay his share for the computer set. Mohan had \$1650 left in his savings account after paying for his share. What was the cost of the computer set?

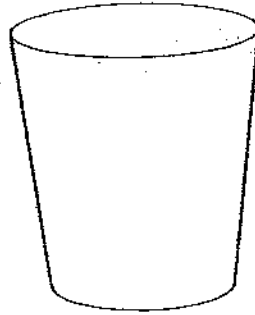
Ans: _____ [4]



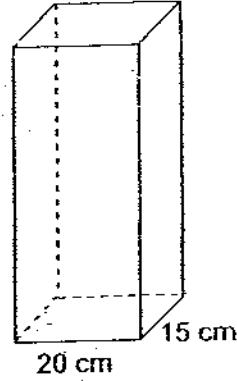
- 43 A rectangular tank, measuring 50 cm by 30 cm by 40 cm, was $\frac{1}{2}$ filled with water. All the water in the tank was then poured into a circular basin and a rectangular tub. The amount of water in the circular basin was three times the amount of water in the rectangular tub which was 20 cm long and 15 cm wide. What was the height of the water in the rectangular tub?



rectangular tank

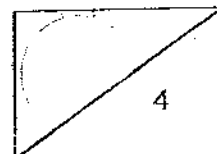


circular basin



rectangular tub

Ans: _____ [4]

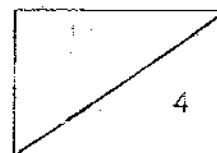


44 A packet of candies cost $\frac{1}{2}$ as much as a box of chocolate. Miss Tan spent $\frac{4}{9}$ of her money on 16 boxes of chocolate. She then spent $\frac{3}{10}$ of the remainder on some packets of candies. She had \$140 left.

- (a) How much money did Miss Tan have at first?
- (b) How many packets of candies did Miss Tan buy?

Ans: (a) _____ [2]

(b) _____ [2]

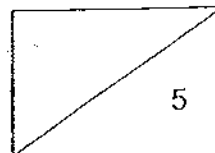


45 Harry, Rebecca and Mark receive a sum of money each month as pocket money. Harry has \$120 more pocket money than what Rebecca has. Mark has 80% as much as what Harry has. Mark has \$40 more than Rebecca.

- (a) How much does Rebecca have as pocket money each month?
- (b) If Rebecca saves 15% of her pocket money each month, at least after how many months would she be able to save enough to buy an MP4 player which costs \$484?

Ans: (a) _____ [3]

(b) _____ [2]

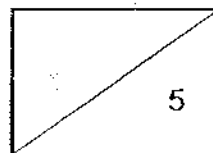


46 Desmond was travelling from Town K to Town L. After completing $\frac{2}{7}$ of the journey, he passed a truck travelling at an average speed of 70 km/h in the same direction. 3 hours later, Desmond reached Town L but the truck was still 65 km away from Town L.

- (a) Find the distance between Town K and Town L.
- (b) If the truck was travelling on the same route as Desmond and left Town K at 10 30, at what time would it arrive at Town L?

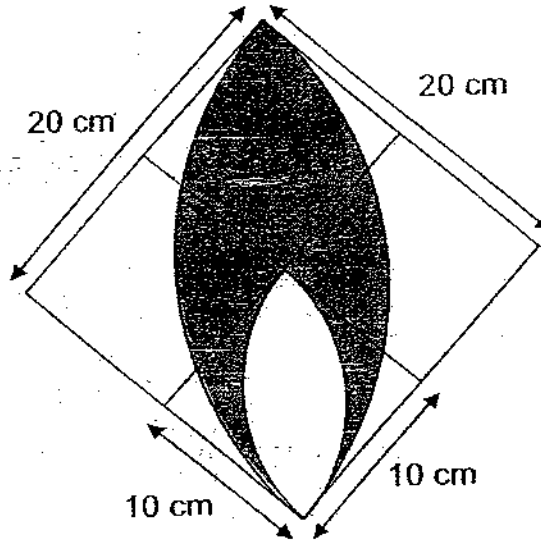
Ans: (a) _____ [3]

(b) _____ [2]

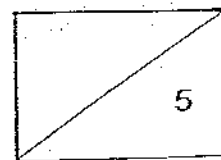


54

- 47 The figure below is made up of 2 identical big quadrants and 2 identical small quadrants. Find the area of the shaded part.
 (Take $\pi = 3.14$)



Ans: _____ [5]



48 Study the number pattern below.

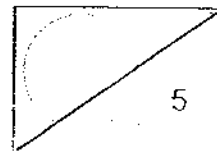
Row 1	2							
Row 2	2 2							
Row 3	2 4 2							
Row 4	2 6 6 2							
Row 5	2 8 12 8 2							
Row 6	2 10 20 20 10 2							
Row 7	2 12 30 40 30 12 2							
Row 8	2	<input type="text"/>	<input type="text"/>	70	70	42	14	2

- (a) Write down the 2nd and 3rd number in the boxes above for Row 8 to complete the number pattern. [2]
- (b) Study the table below. If the 2nd number of a particular row is 30, how many numbers are there in that row?

Row	Number of numbers in the row	2 nd number in the row
2	2	2
3	3	4
4	4	6
5	5	8
6	6	10
7	7	12
...
...	?	30

Ans: (b) _____ [3]

END OF PAPER




EXAM PAPER 2008

SCHOOL : RED SWASTIKA PRIMARY SCHOOL
SUBJECT : PRIMARY 6 MATHEMATICS

TERM : SA 1

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

- 16) $3\frac{1}{5}L$ 17) $\frac{1}{3}$ 18) library 19) 18 20) $\frac{1}{25}$
- 21) $\frac{1}{6}$ 22) 84 23)  24) 6
- 25) $\frac{3}{8}$ 26) 5.2 27) \$431.50 28) 18 29) 9.35pm
- 30) 260 31) $n/8$ 32) \$12.20 33) 180 fruits
- 34) 77 35) A and B
- 36) $\angle CAD = 88^\circ$
 $\angle BAC = 44^\circ$
 $K = 44^\circ + 25^\circ = 69^\circ$
- 37) shaded \triangle : unshaded \triangle : unshaded oval
- | | | | | |
|----|---|---|----|--|
| 7 | : | 3 | | |
| X3 | : | 9 | | |
| 21 | : | 9 | 11 | |

Shaded : unshaded
 21 : 9+11
 =21 : 20

57

38) 35% → \$560

March salary 100% → $\frac{560}{35} \times \frac{100}{1} = \1600

April salary = $\frac{140}{100} \times 1600 = \2240

Amount saved = 2240 - 560 = \$1680

% saved = $\frac{1680}{2240} \times 100\% = 75\%$

39) D = 48 × 2 1/2 = 120 km
Speed = 120 ÷ 2 = 60 km/h

40) Area = 1/2 × 15 × 4 = 30 cm²

41) Area of big circle = π R²
= 3.14 × 5 × 5
= 78.5 cm²

Area of small circle = π r²
= 3.14 × 3 × 3
= 28.26 cm²

Shaded area = 78.5 - 28.26
= 50.24 cm²

42)	<u>J : M</u>	<u>computer</u>
	12 : 7	J : M
Computer	6 : 4	3 : 2
Left	6 : 3	x2 : x2
		6 : 4 = 10u

3u → \$1650
10u → $\frac{1650}{3} \times \frac{10}{1}$

= \$5500

43) $50 \times 30 \times 40 = 60000 \text{ cm}^3$

$60000 \div 2 = 30000 \text{ cm}^3$

$30000 \div 4 = 7500 \text{ cm}^3$

$$H = \frac{V}{L \times B}$$
$$= \frac{7500}{20 \times 15}$$
$$= 2.5 \text{ cm}$$

44) a) $7u = \$140$

$1u = \$140 \div 7 = \20

$18u = \$20 \times 18 = \360

b) $8u = 16$ boxes of chocolate

$3u = \frac{16}{8} \times 3 = 6$ boxes

$= 6 \times 2 = 12$ packets of candies.

45) a) $R = 100\%$

$H = 100\% + \$120$

$M = 80\% + (80/100 \times \$120)$

$= 80\% + \$96$

$100\% + \$40 = 80\% + \96

$20\% = \$56$

$100\% = \frac{\$56}{20} \times 100 = \280

b) $15 \times \$280 = \4200

100

$484 \div 42 = 11.5$

≈ 12 months.

46)a) $70 \times 3 = 210 \text{ km}$

$5u = 210 + 65 = 275 \text{ km}$

$7u = \frac{275 \times 7}{5} = 385 \text{ km}$

b) $T = D = \frac{385}{S} = 5 \frac{1}{2} \text{ h}$

$1030 + 5 \frac{1}{2} = 1600$

47) $\pi R^2 = \frac{3.14 \times 20 \times 20 \times \frac{1}{4}}{4} = 314 \text{ cm}^2$

$\frac{1}{2} \times 20 \times 20 = 200$

$314 - 200 = 114$

$114 \times 2 = 228$

$\pi r^2 = \frac{3.14 \times 10 \times 10 \times \frac{1}{4}}{4} = 78.5 \text{ cm}^2$

$\frac{1}{2} \times 10 \times 10 = 50$

$78.5 - 50 = 28.5$

$28.5 \times 2 = 57$

Shaded area = $228 - 57 = 171 \text{ cm}^2$

48)a) 14,42

b) There are 16 number in that row.

---end---