Anglo-Chinese School (Primary)

MID-YEAR EXAMINATION 2008

MATHEMATICS

BOOKLET A

PRIMARY SIX

Name: _____( ) Class: Primary 6 __

Date: 6 May 2008 Duration of paper: 2 h 15 min

THIS BOOKLET CONTAINS 7 PAGES.
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SECTION A - Multiple Choice Questions (20 MARKS)

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 (OAS).

1. The population of Singapore in 2007 was estimated to be at 4 548 600. Express this number to the nearest hundred thousand.

   1) 4 000 000
   2) 4 500 000
   3) 4 549 000
   4) 4 550 000

2. Arrange the following numbers in descending order.

   5, 5.4 , 5.04

   1) 5.04 , 5.4 , 5
   2) 5.4 , 5.04 , 5
   3) 5 , 5.04 , 5.4
   4) 5.4 , 5 , 5.04

3. The average of 3 numbers is $6m$. One of the number is $5m$ and the second number is 4. What is the third number?

   1) $9m$
   2) $13m$
   3) $4m - 4$
   4) $13m - 4$

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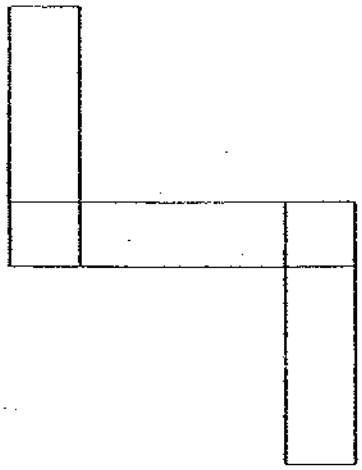
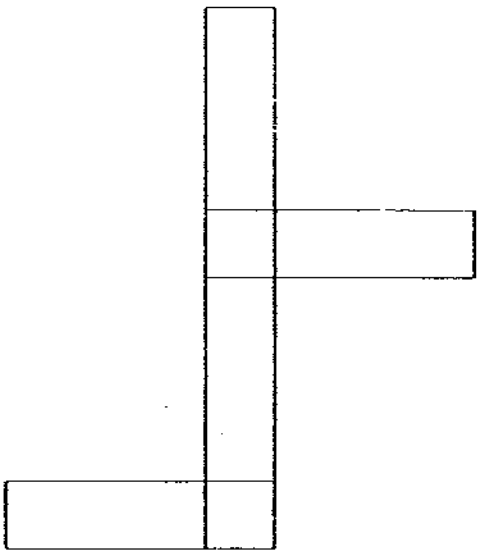
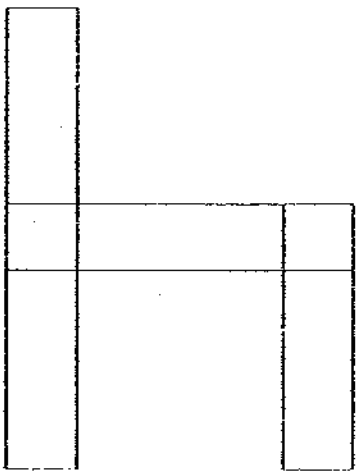
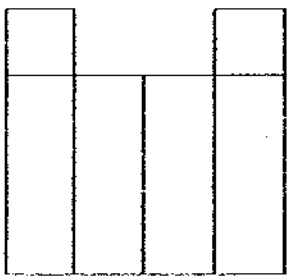
4. Which of the following can be folded to form a cuboid?

1) 

2) 

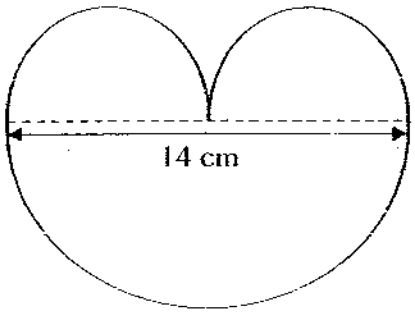
3) 

4) 

5. A show at the cinema started at 11.45 a.m. and ended at 2.20 p.m. How long was the show?

1) 2 h 25 min
2) 2 h 35 min
3) 3 h 25 min
4) 3 h 35 min

6. The figure below is made up of 3 semicircles. Find the perimeter of the figure (Take $\pi = \frac{22}{7}$).



1) 14 cm
2) 33 cm
3) 44 cm
4) 88 cm

7. The average of 10, [?] and 17 is 13. What is the missing number in the box?

1) 12
2) 13
3) 14
4) 15

8. Which of the following fractions is the smallest?

1) $\frac{2}{3}$

2) $\frac{4}{7}$

3) $\frac{5}{11}$

4) $\frac{7}{12}$

9. At an exhibition, there were 300 men and 200 women. How many percent more men than women were there?

1) 20%

2) 40%

3) 50%

4) 60%

10. A sum of money was divided among Andy, Benny and Carl in the ratio 2 : 3 : 4 respectively. Carl received $80 more than Andy. What was the sum of money?

1) $ 90

2) $180

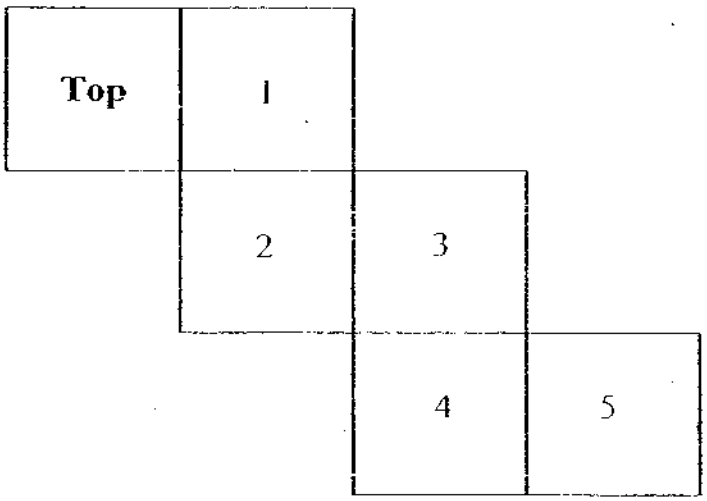
3) $360

4) $720

11. A tank is 60% full with water. How much more water is needed to fill the tank completely if it measures 18 cm by 22 cm by 30 cm?

1) 1 980 cm^3
2) 4 752 cm^3
3) 7 128 cm^3
4) 11 880 cm^3

12. The figure shown below is the net of a cube. Which one of the faces is opposite the top of the cube?



1) 1
2) 2
3) 3
4) 4

13. May spent $\frac{3}{5}$ of her money on clothes and 25% of the remainder on food. What was the ratio of the amount of money spent on food to the amount spent on clothes?

1) 12 : 5
2) 5 : 12
3) 6 : 1
4) 1 : 6

14. Jane cycles at an average speed of 13km/h from her home to Tampines Shopping Mall. The mall is $3\frac{1}{4}$ km away from her home. At what time must she set off from her home if she wants to arrive at the mall at 9 a.m.?

1) 8. 35 a.m.
2) 8. 45 a.m.
3) 9. 15 a.m.
4) 9. 25 a.m.

15. Mrs Chen had $\frac{4}{5}$ kg of sugar. She used $\frac{1}{2}$ of it to bake a cake and $\frac{3}{8}$ of it to make tarts. How many kilogrammes of sugar did she have left?

1) $\frac{1}{5}$
2) $\frac{1}{8}$
3) $\frac{1}{10}$
4) $\frac{7}{10}$

Anglo-Chinese School (Primary)

MID-YEAR EXAMINATION 2008

MATHEMATICS

BOOKLET B

PRIMARY SIX

Name: _____( ) Class: Primary 6 ___

Date: 6 May 2008 Duration of paper: 2 h 15 min

_____

Parent's/Guardian's signature

Section	Maximum Marks	Marks Obtained
Section A. Multiple Choice Questions	20	
Section B. Shorts answers: Part 1	10	
Section B. Shorts answers: Part 2	20	
Section C. Problem Sum	50	
Total	100	

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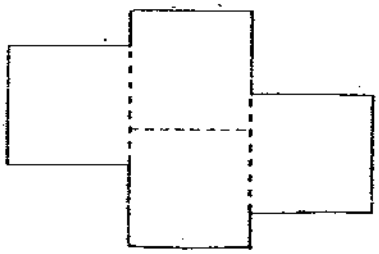
SECTION B - Short Answers (30 MARKS)

Part I (10 × 1 mark)

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

16. The figure is made up of four identical squares each of side 3 cm. What is the perimeter of the figure?



Answer: _____

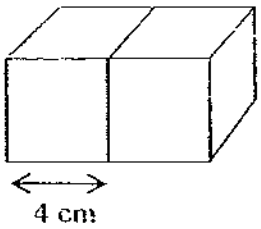
17. Find the value of $7.01 - 0.42$.

Answer: _____

18. A colour printer can print 50 pages in 12 minutes. At this rate, how many pages can the printer print in 1 hour?

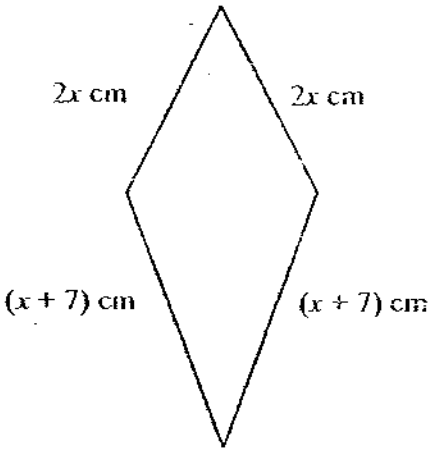
Answer: _____

19. Sally made the cuboid shown below using 2 identical cubes of sides 4 cm. What is the volume of the cuboid?



Answer: _____ cm^3

20. What is the perimeter of the figure in terms of x?



Answer: _____ cm

21. A special documentary on *Discovery* channel lasted for 1 hour and 55 min. It ended at 10.30 p.m. At what time did the documentary start?

Answer: _____

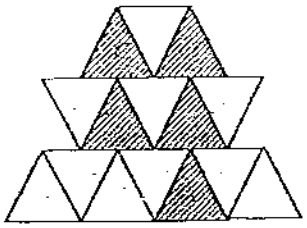
22. Mrs Tay had $\frac{2}{3}$ of a cake. She divided the cake equally among her 4 pupils. What fraction of the cake did each pupil get?

Answer: _____

23. Express 25¢ as a ratio of $1.50 .

Answer: _____

24. How many more triangles need to be shaded in order to have $\frac{2}{3}$ of the figure shaded?



Answer: _____

25. Mr Boey drove at 60 km/h for 90 minutes and 80 km/h for 30 minutes. Find the total distance he travelled.

Answer: _____ km

Part II (10 × 2 marks)

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

26. A rectangular water tank has a base area of 8.6 m^2 and a height of 2m.
What is the volume of water in the tank when it is $\frac{1}{4}$ full?

Answer : _____ m^3

27. Find the value of the following expression when $y = 6$.

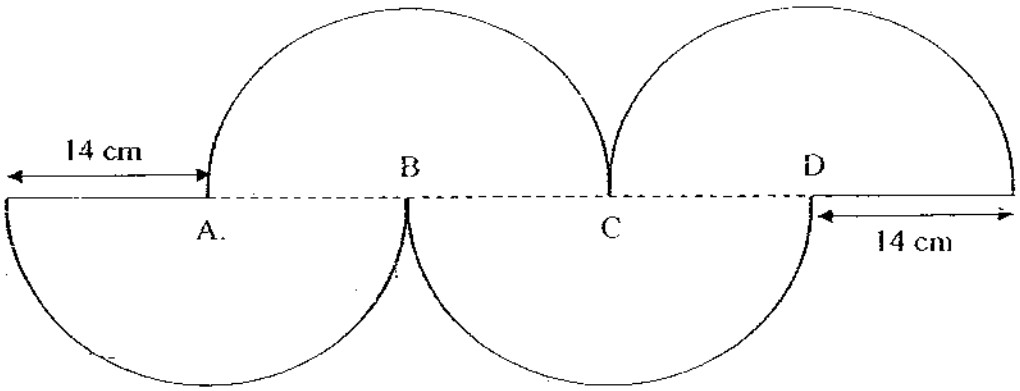
$$13y + \frac{5y}{3} - 7 - 2y$$

Answer : _____

28. Muthu left Singapore at 19 45 to drive up to Cameron Highlands which is 625 km away. If he travelled at an average speed of 75 km/h, at what time did he arrive at Cameron Highlands?

Answer : _____

29. In the figure below, A, B, C and D are the centres of the 4 identical semicircles. The radius of each semicircle is 14 cm. Find the perimeter of the figure. (Take $\pi = \frac{22}{7}$)



Answer : _____ cm

30. Wendy had some money in her purse. After buying 8 books she had $6 left. If she had bought 12 books, she would need $4 more. What was the cost of one book?

Answer: _____

31. A carpenter has a rectangular block of wood measuring, 36 cm by 22 cm by 17 cm, as shown in Figure 1. He cuts as many 4-cm cubes as possible from the block of wood and is left with the L-shaped block of wood as shown in Figure 2. What is the maximum number of 4-cm cubes that he can cut from the rectangular block?

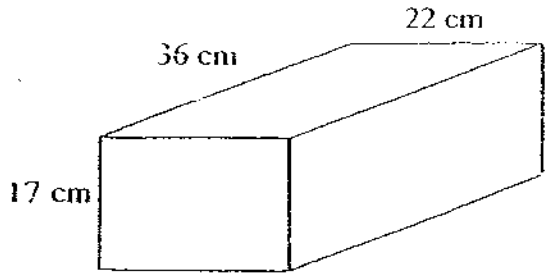


Figure 1

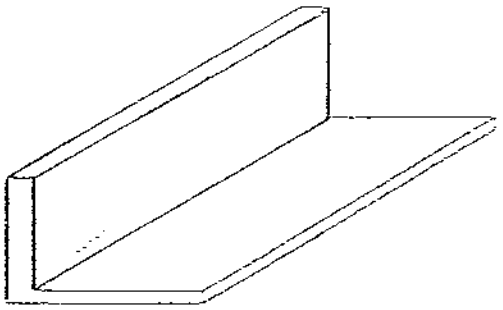


Figure 2

Answer: _____

32. Ken has $550 and Ryan has $150 more than Ken. What is their average amount of money?

Answer: _____

33. The ratio of Ali's height to that of Jonathan's height is 5 : 6. The ratio of Jonathan's height to that of Henry's height is 9 : 7. Find the ratio of Ali's height to that of Henry's height.

Answer: _____

34. 40% of A is 50% of B. If the difference between A and B is 15, what is the total value of A and B?

Answer: _____

35. The usual price of a watch was $250. A 30% discount was given at a sale. Members could get a further 20% discount on the discounted price when paid with the membership card. At the sale, how much did a customer pay for the watch when he used the membership card?

Answer: _____

SECTION C - Problem Sums (50 MARKS)

For each question from 36 to 48, show your working and mathematical statements clearly in the space below each question. Write your answer in the answer space provided. Give your answers in the units stated and in its simplest form whenever possible. Marks awarded are shown in the brackets [ ].

36. The table below shows the parking charges at Union Plaza's carpark.

Parking charges	
Monday – Saturday (before 5 pm)	\$1.05 for first hour \$0.25 for subsequent 15 min or part thereof
Monday – Saturday (after 5 pm)	\$2.10 per entry
Sunday	\$2.10 per entry

(a) Mr Liew parked his car at the carpark on Monday from 1 p.m. to 1.25 p.m. and on Sunday from 10 a.m. to 12 p.m.
How much did he pay altogether?

(b) Mrs Koh parked her car at the carpark from 3 p.m. to 6 p.m. on Friday. How much did she pay?

Answer : (a) _____ [1]

(b) _____ [2]

37. Salim took part in a triathlon. He swam $3w$ m during the swimming event. He then cycled 500 m more than the distance he had swam. Finally, he ran three times as far as he had swam.

(a) Express in terms of w, the total distance covered for all three events.

(b) If $w = 400$, find the total distance he had covered for all three events.

Answer : (a)_____ [2]

(b)_____ [1]

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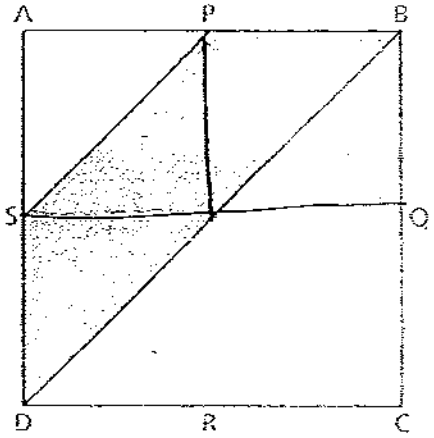
38. Tom spent \$30 of his money on a book. He spent $\frac{1}{4}$ of the remainder on a pen and still had $\frac{1}{3}$ of his original amount of money left. Find the amount of money he had at first.

Answer: _____ [3]

39. P, Q, R and S are the mid-points of the sides of a square ABCD.



(a) What is the ratio of the area of triangle APS to the shaded area PBDS to the area of triangle BCD?

(b) If the shaded area is 73.5 cm^2, what is the perimeter of the square ABCD?

Answer:(a)_____[1]

(b)_____[2]

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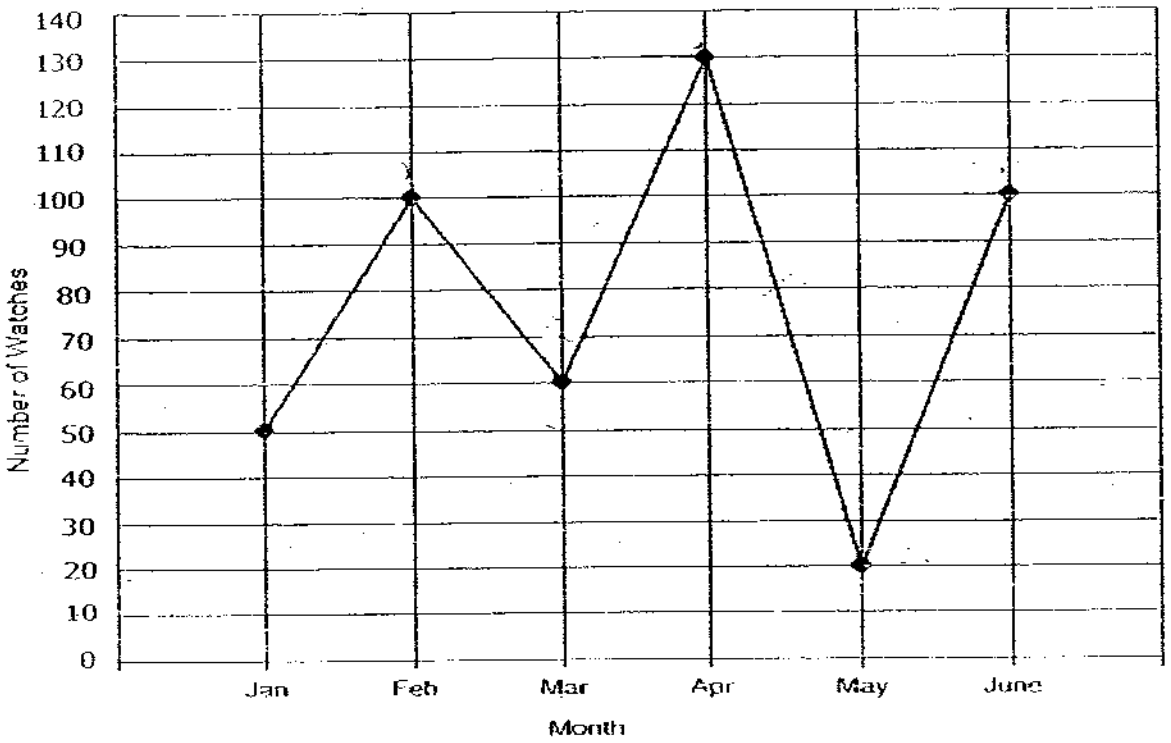
40. The line graph shows the number of watch sold by ABC Watch Company in the first 6 months of a year.



(a) In which 2 months did ABC Watch Company sell the same number of watches?

(b) Find the percentage increase in the number of watches sold from January to February.

(c) Find the ratio of the number of watches soid in March to the number of watches sold in June.

Answer: (a)_____[1]

(b)_____[1]

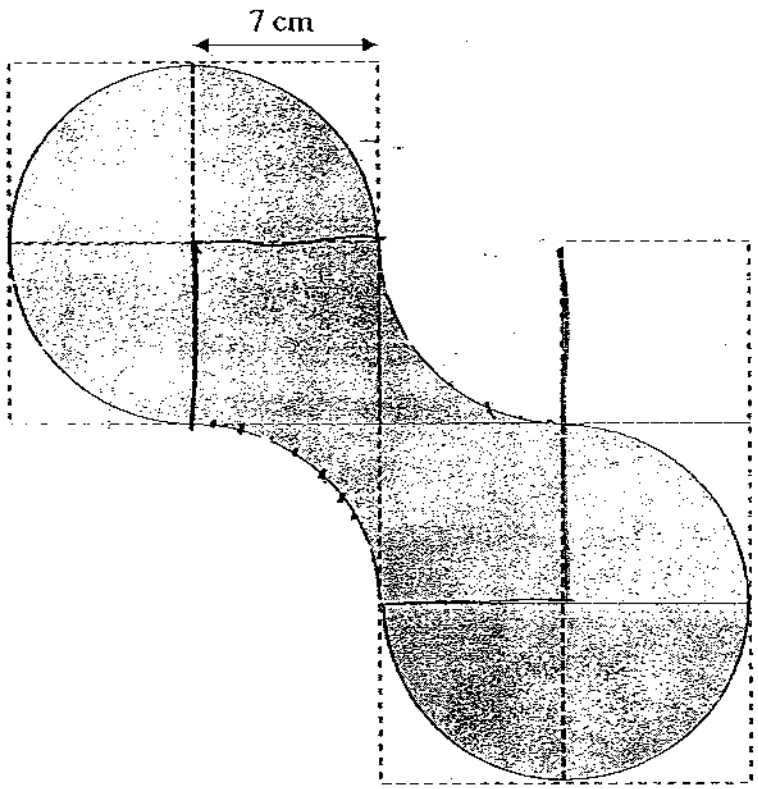
(c)_____[1]

41. The figure below is formed using 8 pieces of string. Each piece of string is a quarter circle of radius 7 cm.

(a) Find the perimeter of the shaded figure.

(b) Find the area of the shaded figure.

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



Answer : (a) _____[2]

(b) _____[2]

42. Alvin's monthly income is $250 more than Clayton but their monthly expenditures are the same. Over a certain period of time, Alvin has saved $1350 but Clayton has only saved $600. Given that each of them spends $500 a month,

(a) How long did Clayton take to save the $600?

(b) What is Alvin's monthly income?

Answer : (a)_____[2]

(b)_____[2]

43. John had some local and foreign stamps. The ratio of the number of his local stamps to the number of foreign stamps was 2 : 3. After he had given away 30 local stamps and 30 foreign stamps, the ratio of the number of local stamps to the number of foreign stamps became 5 : 9.

(a) How many local stamps did he have at first?

(b) Find the total number of foreign stamps he had left.

Answer: (a)_____[3]

(b)_____[1]

44. At a concert, 30% of the audience were children. The number of men was 10% more than the number of children. There were 222 women at the concert. How many people attended the concert?

Answer: _____ [4]

1(2

45. The admission cost to a concert was $10 per adult and $5 per child. On a particular day, a total of $2340 was collected. The ratio of the number of adults to the number of children present at the concert was 7 : 4. Find the number of children who attended the concert that day.

Answer: _____ [4]

46. The patterns below are made up of circles and sticks.

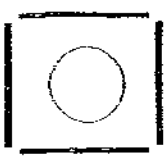


Fig. 1

Fig. 2

Fig. 3

(a) Complete the following table.

Figure Number	Number of circles	Number of sticks
1	1	4
2	2	6
3	3	8
4	4	10
(i) _____	10	22
100	100	(ii) _____

[2]

(b) How many circles are needed to complete a pattern if the number of sticks used is 502?

Answer : (b)_____ [3]

47. Mr Tan gave some marbles to Andy, Benny, Calvin and Dave. Andy received 180 marbles. Benny received 80 fewer marbles than Calvin. Calvin received 30% of the total number of marbles given by Mr Tan. Dave received 20% of the total number of marbles given by Mr Tan. How many marbles did Benny receive?

Answer: _____ [5]

48. The distance between Town X and Town Y was 480 km. At 9.30 a.m., a van left Town X for Town Y travelling at a constant speed. At the same time, a car travelling at a constant speed set off from Town Y towards Town X. The two vehicles met each other at 1.30 p.m. The car was travelling at 20 km/h faster than the van. What was the speed of the car?

Answer: _____ [5]

ACS Primary School

Primary 6 Maths SA1 Exams (2008)

Answers Key

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

16. 30cm
17. 6.59
18. 250 pages
19. 128 cm^3
20. (6x + 14)cm
21. 8.35pm
22. $\frac{1}{6}$
23. 1:6
24 5 more triangles
25. 130 km

26. $4.3m^3$

27. 69

28. 0405

29. 204

30. \$2.50

31. 36cm ÷ 4cm = 9
2cm ÷ 4 = 5r2
17 ÷ 4cm = 4r1
9 × 5 × 4 = 180

32. \$550 + \$150 + \$550 = \$1250
\$1250 ÷ 2 = \$625

33. A : J J : H
5 : 6 9 : 7
15 : 18 18 : 14
Ans : 15 : 14

34. 2u → 15

18u → 135

35. $\frac{70}{100} \times \$250 = \$175$
$\frac{80}{100} \times \$175 = \$140$

36a. \$2.10 + \$1.05 = \$3.15
He had to pay \$3.15.

36b. \$0.25 × 4 = \$1
\$1 + \$1.05 + \$2.10 = \$4.15

She had to pay \$4.15.

37a. 300 + 500 = 3w + 500
3w × 3 = 9w
3w + 3w + 500 + 9w = 15w + 500
The total distance covered is (15w + 500)m

37b. 3 × 400 = 1200
1200 + 500 = 1700
1200 × 3 = 3600
1200 + 1700 + 3600 = 6500
The total distance he covered is 6500m.

38. $6u - 1u = 5u$
$5u \rightarrow \$30$
$1u \rightarrow \$6$
$9u \rightarrow \$54$
The amount of money was \$54.

39a. The ratio is 1 : 3 : 4
$73.5 \div 3 = 24.5cm^2$
$24.5cm^2 \times 8 = 196cm^2$
$196cm^2 = 14cm \times 14cm$
$14cm \times 4 = 56cm$
39b. The perimeter is 56cm

40a. February and June

The 2 months are February and June.
40b. $100 - 50 = 50$
$\frac{50}{50} \times \frac{100}{1} = 100\%$
The percentage is 100%
The ratio is 3 : 5

41a. $\frac{22}{7} \times 4cm \times \frac{1}{4} = 11cm$
$11cm \times 8 = 88cm$
The perimeter is 88cm
41b. $7cm \times 7cm = 49cm^2$
$49cm^2 \times 3 = 147cm^2$
$147cm^2 + 49cm^2 = 196cm^2$
$\frac{22}{7} \times 7cm \times 7cm = 154cm^2$
$154cm^2 + 196cm^2 = 350cm^2$
The area is $350cm^2$

42a. $1350 - 600 = 750$
$750 \div 250 = 3$

Clayton took 3 months.
42b. $1350 \div 3 = 450$
$450 + 500 = 950$
Alvin's monthly income is \$950.

43a. $3u \rightarrow 120$
$2u \rightarrow \frac{120}{3} \times \frac{2}{1} = 80$
He had 80 local stamps at first.
43b. $120 - 30 = 90$
He had 90 foreign stamps left.

44. $\frac{10}{100} \times \frac{30}{1} = 3$
$30 + 3 = 33$
$33 + 30 = 66$
$100 - 63 = 37$
$37\% \rightarrow 222$
$100\% \rightarrow \frac{222}{37} \times 100\% = 600$
600 people attended the concert.

45. $\$10 \times 7 = \$70$
$\$5 \times 4 = \$20$
$\$20 + \$70 = \$90$
$\$2340 \div \$90 = 26$
$26 \times 4 = 104$
104 children the concert that day.

46a. i) 10
ii) 202

46b. $502 - 2 = 500$

$500 \div 2 = 250$
250 cards are needed.

47. $180 - 80 = 100$
$2u \rightarrow 100$
$3u \rightarrow \frac{100}{2} \times 3 = 150$
$150 - 80 = 70$
Benny receives 70 marbles.

48. $20 \times 4 = 80$
$480 - 80 = 400$
$400 \div 2 = 200$
$200 \div 4 = 50$
$50 + 20 = 70$
The speed of the car is 70 km/h.