



Anglo-Chinese School (Junior)/Anglo-Chinese School (Primary)

P6 MATHEMATICS 2008

COMBINED PRELIMINARY EXAMINATION

BOOKLET A

Name: _____ () Class: Primary 6 _

Date: 20 August 2008

Duration of paper: 2h 15 min

THIS BOOKLET CONTAINS 7 PAGES.

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

FOLLOW ALL INSTRUCTIONS CAREFULLY.

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 Round off 83.499 to the nearest hundredth.

(1) 83.49

(2) 83.50

(3) 83.00

(4) 84.00

2 Simplify $3y + 5 - 2y - 6 + 6y$.

(1) $3y - 1$

(2) $7y - 1$

(3) $7y + 11$

(4) $11y + 11$

3 In a stadium there are 2089 men, 988 women and 1011 children. Estimate the total number of adults present.

(1) 3000

(2) 3017

(3) 4000

(4) 4088

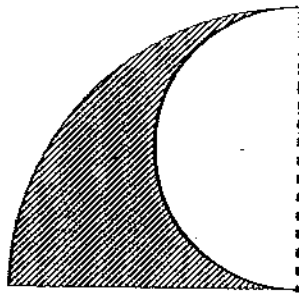
4 Express 250 m as a percentage of 2.5 km.

- (1) 1%
- (2) 10%
- (3) 25%
- (4) 250%

5 Express 155 minutes in hours and minutes.

- (1) 1 h 35 min
- (2) 1 h 55 min
- (3) 2 h 35 min
- (4) 2 h 55 min

6 The figure below is made up of a quadrant and a semi-circle. Find the area of the shaded figure. (Take $\pi = \frac{22}{7}$)



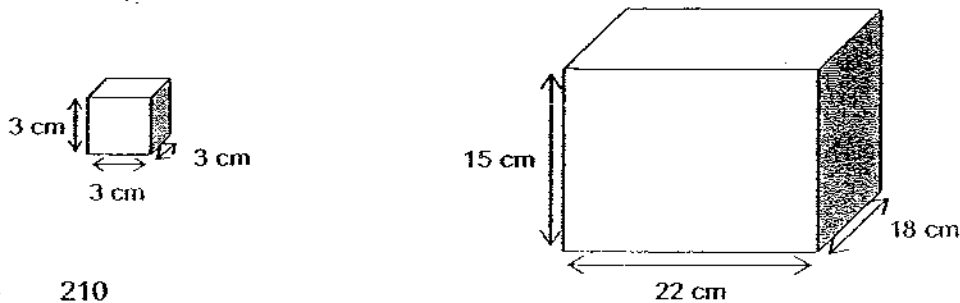
14 cm

- (1) 77 cm^2
- (2) 154 cm^2
- (3) 308 cm^2
- (4) 539 cm^2

7 Jenny, Mary and Tina shared a sum of money in the ratio of 1 : 3 : 5 respectively. If Mary received \$24, find the amount of money which was being shared.

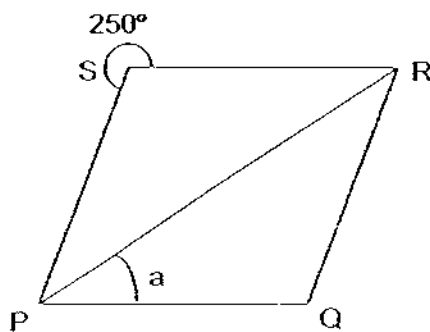
- (1) 32
- (2) 64
- (3) 72
- (4) 80

8 Cubes of 3 cm sides are packed into a rectangular container measuring 22 cm by 18 cm by 15 cm. What is the maximum number of cubes that can be packed into the container?



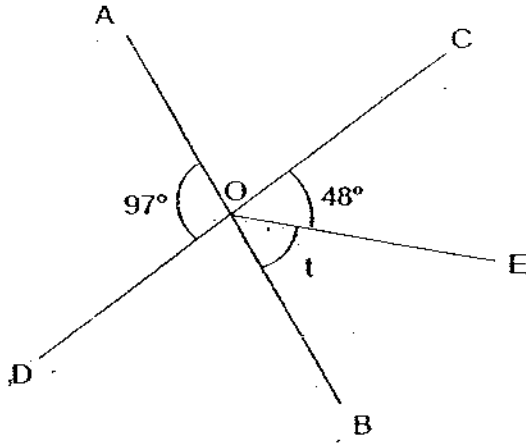
- (1) 210
- (2) 220
- (3) 660
- (4) 1980

9 In the figure, PQRS is a rhombus. Find $\angle a$.



- (1) 35°
- (2) 50°
- (3) 70°
- (4) 110°

10 In the figure, AOB and COD are straight lines. Find $\angle t$.



- (1) 35°
- (2) 42°
- (3) 49°
- (4) 51°

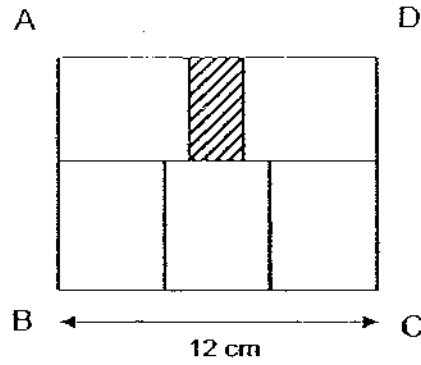
11 There were 40 pupils in a class. 24 of them were boys and the rest were girls. How many percent more boys than girls were there in the class?

- (1) 20%
- (2) 40%
- (3) 50%
- (4) 60%

12 5 boys working at the same rate can make 50 kites in 1 hour. How long will 3 boys working at the same rate take to make 50 kites?

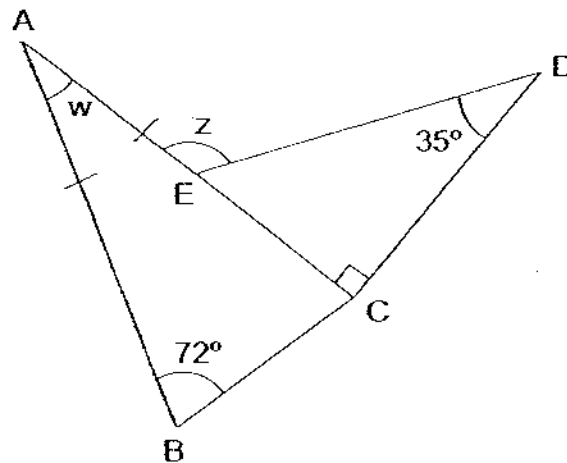
- (1) 36 min
- (2) 50 min
- (3) 60 min
- (4) 100 min

- 13 Rectangle ABCD is made up of 5 identical rectangles and a small shaded rectangle. The breadth of each of the identical rectangles is 4 cm. The shaded area is 8 cm^2 . Find the length of AB.



- (1) 5 cm
- (2) 7 cm
- (3) 8 cm
- (4) 9 cm

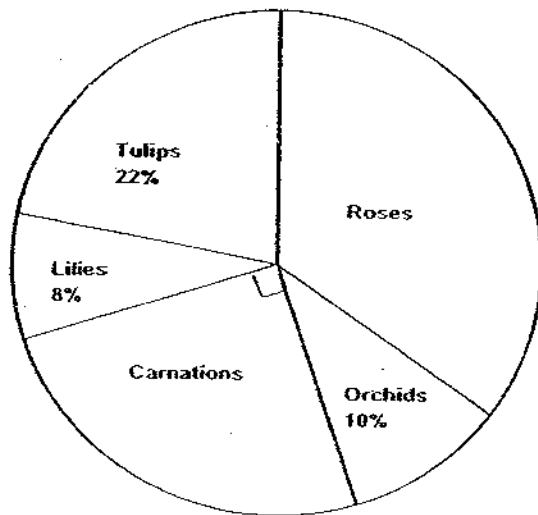
- 14 In the figure, ABC is an isosceles triangle. What is the sum of $\angle w$ and $\angle z$?



- (1) 107°
- (2) 125°
- (3) 161°
- (4) 180°

- 15 The pie chart below shows the different types of flowers in a garden. If there are 20 more roses than orchids, how many flowers are there in the garden altogether :

Number of flowers in a garden



- (1) 35
- (2) 50
- (3) 80
- (4) 700



Anglo-Chinese School (Junior)/ Anglo-Chinese School (Primary)

P6 MATHEMATICS 2008

COMBINED PRELIMINARY EXAMINATION

BOOKLET B

Name: _____ () Class: Primary 6 _____

Date: 20 August 2008

Duration of paper: 2h 15min

Parent's/Guardian's signature

SECTION A. Multiple Choice Questions	20	
SECTION B. Shorts answers: Part I	10	
SECTION B. Shorts answers: Part II	20	
SECTION ^C D . Problem Sum	50	
Total	100	

THIS BOOKLET CONTAINS 24 PAGES.
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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 Write the sum of $\frac{7}{10} + \frac{3}{100}$ as a decimal.

Answer: _____

17 Find the value of $9.01 - 0.39$.

Answer: _____

18 $88 \times 88 = 80 \times 88 + \underline{\hspace{2cm}} \times 22$

What is the missing number?

Answer: _____

- 19 In a bus, $\frac{4}{5}$ of the passengers are adults and the rest are children. $\frac{2}{3}$ of the children are female. What fraction of the total passengers are boys?

Answer: _____

- 20 The table below shows the number of storybooks borrowed by pupils in a class in the month of July.

Number of story books borrowed	0	1	2	3	4	5	6
Number of pupils	5	8	10	2	3	3	1

How many pupils borrowed 3 books or less in July?

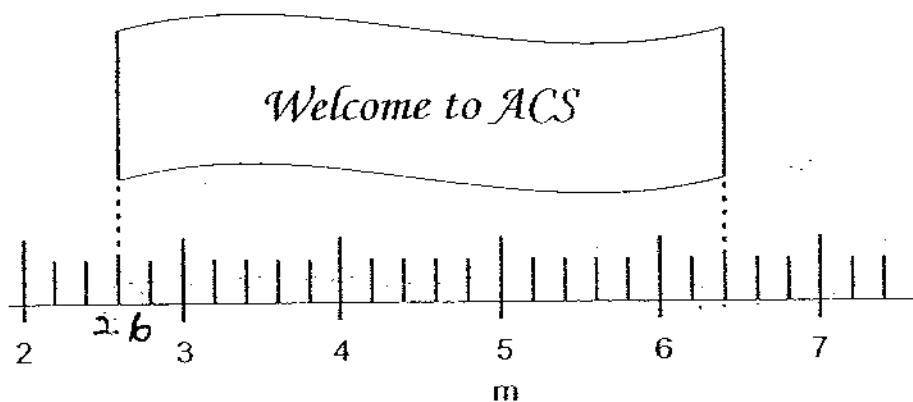
Answer: _____

B - 8

Sub-total:

181

21 What is the length of the banner as shown in the figure?



Answer: _____ m

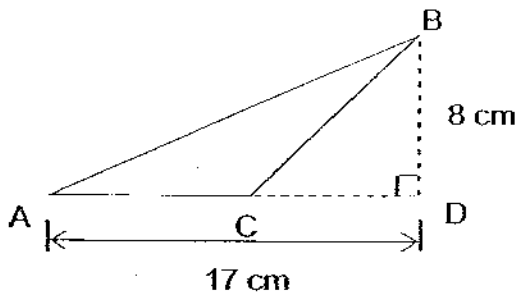
22 Jason and his 7 friends bought a present for their teacher. They paid a total amount of \$104 for the present. What was the average amount each person had to pay?

Answer: \$ _____

- 23 The number of goldfish in an aquarium is $\frac{1}{2}$ the number of swordtails while the number of guppies is twice that of the swordtails. If there are 8 goldfish, what is the total number of fishes in the aquarium?

Answer: _____

- 24 In the figure below, ACD is a straight line and BCD is an isosceles triangle. What is the area of triangle ABC?



Answer: _____ cm^2

25 Siva finished polishing his bicycle at 1.25 p.m. He took 1 hour and 45 minutes to finish this task. At what time did he start polishing his bicycle?

Answer: _____ a.m.

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 $\frac{1}{2}$ of the length of Rope B is $\frac{2}{3}$ the length of Rope A which is 48m long. Find the total length of the 2 ropes.

Answer : _____ cm

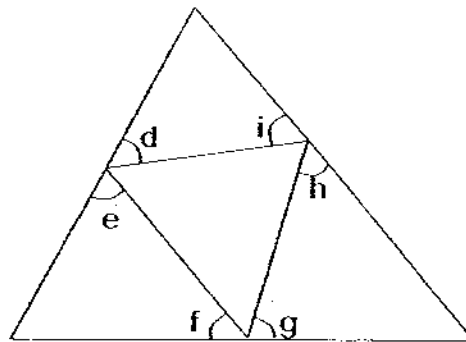
27 Jaryl has less than 40 cookies. If he puts them into packets of 5, he will have 2 cookies left. If he puts them into packets of 7, he will be short of 3 cookies. How many cookies does he have?

Answer : _____

- 28 The average of 3 numbers is 68. When a fourth number is added, the average of the 4 numbers is 70. What is the value of the fourth number?

Answer : _____

- 29 Find $\angle d + \angle e + \angle f + \angle g + \angle h + \angle i$ in the figure.



Answer : _____°

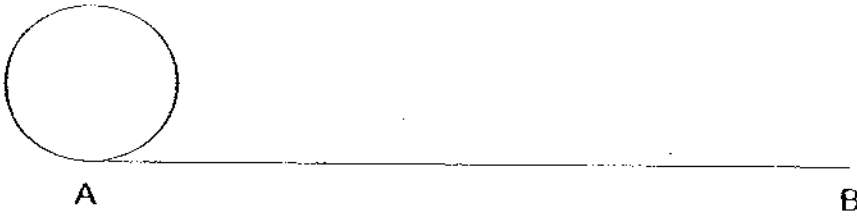
- 30 A motorist travelled at an average speed of 60 km/h for the first 3 h. He then continued to travel the remaining journey at an average speed of 70 km/h and took another 2 h to reach his destination. What was his average speed for the whole journey?

Answer: _____ km/h

- 31 Mrs Lee paid \$510 for a hi-fi set after a discount of 15%. What was the original price of the hi-fi set?

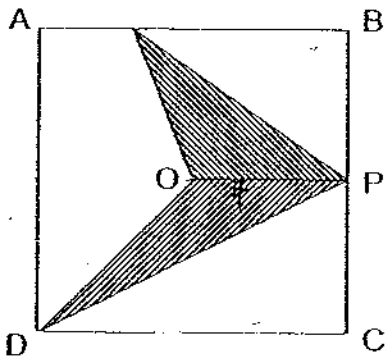
Answer: \$ _____

- 32 A hoop is rolled along a straight line for 4 complete revolutions from A to B. If AB is 264 cm, find the diameter of the hoop. (Take $\pi = \frac{22}{7}$)



Answer: _____ cm

- 33 ABCD is a square of sides 8 cm. O is the point where the diagonals of the square intersect. OP is perpendicular to BC. Find the area of the shaded parts.

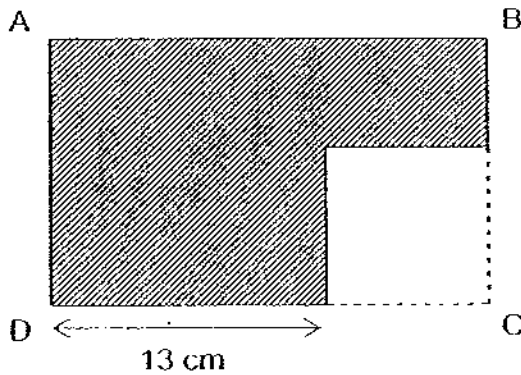


Answer: _____ m²

- 34 A delivery company, charges \$7 for parcels delivered on time and \$5 for parcels delivered late. In March, the company collected \$12300. For every 19 parcels delivered, 5 of them were delivered late. Find the number of parcels delivered late in March.

Answer: _____

- 35 The figure below shows a rectangle ABCD with a square removed. The ratio of the length of AB to the perimeter of rectangle ABCD is 3 : 10. The difference between the length of AB and the length of AD is 7 cm. Find the area of the removed square.



Answer: _____ cm²

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 Mark, Jason and David had 126 marbles. Jason had k more marbles than Mark and David had twice as many marbles as Jason.

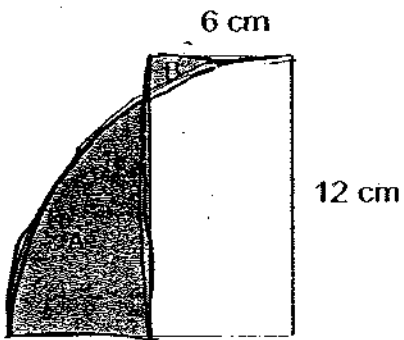
- (a) How many marbles did Mark had in terms of k ?
- (b) If $k = 2$, how many marbles did Jason and David have altogether?

Answer : (a) _____ [10]

(b) _____ [2]

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- 37 The figure is made up of a quadrant and a rectangle. Taking $\pi = 3.14$, find the
- (a) total perimeter of the shaded part A and B.
 - (b) difference in area between A and B.



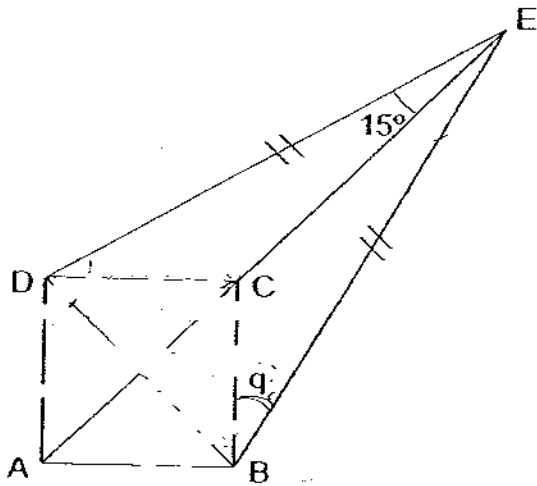
Answer : (a) _____ [1]

(b) _____ [2]

38 In the figure, ABCD is a square and $BE = DE$.

(a) Find $\angle p$.

(b) Find $\angle q$.



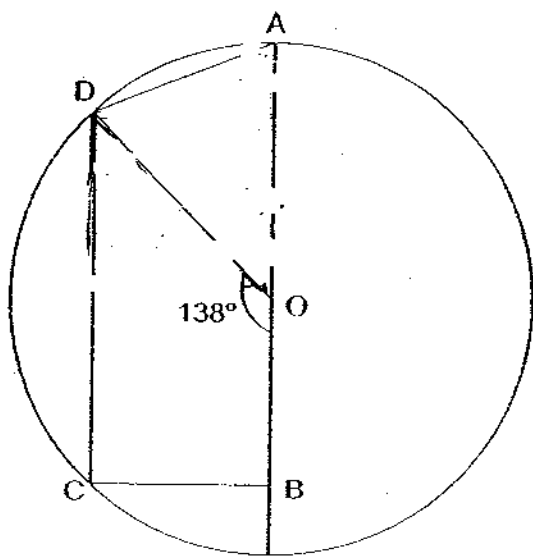
Answer : (a) _____ [1]

b) _____ [2]

39 In the figure, O is the centre of the circle. $AB \parallel CD$.

(a) Find $\angle ODC$.

(b) Find $\angle OAD$.



Answer : (a) _____ [1]

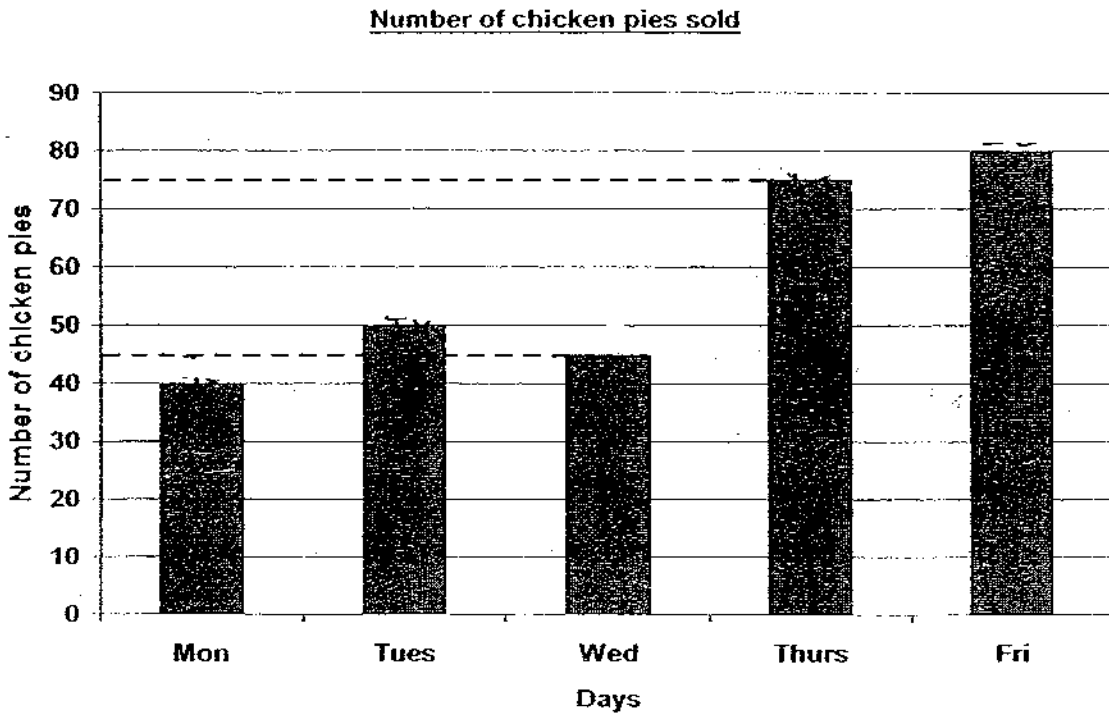
(b) _____ [2]

B-20

Sub-total:

(93)

40 The bar graph below shows the number of chicken pies sold on 5 days.



- (a) What was the number of chicken pies sold on Wednesday?
- (b) How many percent more chicken pies was sold on Friday than on Tuesday?
- (c) If each chicken pie was sold for \$2.50, what was the amount collected on Thursday?

Answer : (a) _____ (1)

(b) _____ (2)

(c) _____ (1)

B-21

Sub-total:

194

- 41 Mary and Jason each have some money. If Mary spent \$80 per day and Jason spent \$40 per day, Mary will have \$500 left when Jason has spent all his money. If Mary spent \$40 per day and Jason spent \$80 per day, Mary will have \$1100 left when Jason has spent all his money. What is the amount of money Jason has?

Answer: _____ 141

B-22

Sub-total:

195

42 A box and 4 similar files weighed 7.6 kg. Tom added 2 more such files and 5 identical books into the box and the total weight became 14.2 kg. Each file weighed 3 times as much as a book.

(a) What ^{is} the weight of the empty box in kg?
A

(b) If Tom could only lift 12 kg., what was the least number of files that he should remove from the box so that he could lift the box and its contents?

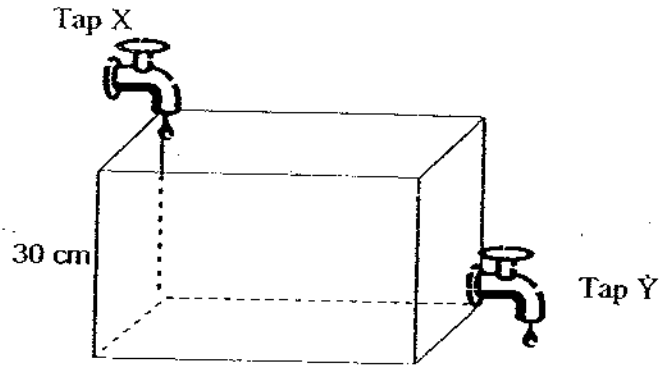
Answer: (a) _____ [2]

(b) _____ [2]

- 43 Car A left Town X for Town Y at the same time when Car B left Town Y for Town X. The average speed of Car A was 56 km/h and the average speed for Car B was 72 km/h. The two cars passed each other at a point 24 km from the midway of the two towns. What is the distance between Town X and Town Y?

Answer : _____ [4]

- 44 A rectangular tank, which has a height of 30 cm and can hold 60 ℓ of water, was empty at first. Tap X was turned on to fill the tank with water at a rate of 4 ℓ per minute. After 1 minute, Tap Y was turned on to drain the water from the tank at a rate of 3 ℓ of water per minute. Both taps were turned off 8 minutes after Tap Y was turned on. What was the height of the water level in the tank when both taps were turned off?



Answer : _____ [4]

- 45 Mr Tan bought three times as many badges as toy cars and spent \$144 in total. He spent \$84 more on toy cars than on badges. Given that a toy car cost \$10.40 more than a badge, what is the cost of a badge?

Answer : _____ [4]

- 46 The amount of sales in Sports Store had increased by 30% in April 2008 as compared to March 2008. However, the amount of sales decreased by 10% in May 2008 as compared to the amount of sales in April 2008. The difference in the amount of sales between March 2008 and May 2008 was \$7650. What was the difference in sales between April and May 2008?

Answer : _____ [4]

47 The table below shows the cost of materials for producing a certain toy.

For first 1000 toys	\$1.50 per toy
For next 1000 toys	\$1 per toy
For each subsequent toy	\$0.50 per toy

The cost of production for this toy is the sum of the cost of materials and the rental of the machine used. The rental of the machine is \$32 per day, regardless of how many toys are made.

- (a) Given that 7500 toys are made in 3 days, find the total cost of making these toys.
- (b) Find the number of toys made in 5 days at a total cost of \$5660.

Answer : (a) _____ [2]

(b) _____ [3]

Sub-total

201

48 At a fruit stall, the number of oranges is the same as the number of apples at first. 6 oranges and 14 apples were sold. As a result, the ratio of the number of oranges to the number of apples became 7 : 5.

(a) How many apples were left?

(b) How many fruits were there at first?

Answer : (a) _____ [2]

(b) _____ [3]

ACS Primary School
Primary 6 Maths SA2 Exams (2008)

Answers Key

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

- | | |
|--------------------|-----------------------|
| 16. 0.73 | 21. 3.8m |
| 17. 8.62 | 22. \$13 |
| 18. 32 | 23. 56 fishes |
| 19. $\frac{1}{15}$ | 24. 36cm ² |
| 20. 25 pupils | 25. 11.40am |

- | | |
|-----------------|-----------------------|
| 26. 11200 | 27. 32 cookies |
| 28. 76 | 29. 360° |
| 30. 64 km/h | 31. \$600 |
| 32. 21cm | 33. 16cm ² |
| 34. 500 parcels | 35. 64cm ² |

36a. $k \times 3 = 3k$
 $126 - 3k = 126 - 3k$
 $126 - 3k \div 4 = \frac{126 - 3k}{4}$

Mark has $\frac{126 - 3k}{4}$ marbles.

36b. $2 \times 3 = 6$

$126 - 6 = 120$

$120 \div 4 = 30$

$30 \times 3 = 90$

$90 + 6 = 96$

They have 96 marbles altogether.

37a. $12 - 6 = 6$
 $6 + 6 = 12$
 $12 + 12 = 24$

Cir. of $\frac{1}{4}$ circle

$= \pi D \times \frac{1}{4}$

$= 3.14 \times 24 \times \frac{1}{4} = 18.84$

$24 + 18.84 = 42.84$

The perimeter is 42.84cm.

37b.

Area of $\frac{1}{4}$

$= \pi r^2 \times \frac{1}{4} = 3.14 \times 12 \times 12 \times \frac{1}{4}$

38a. $15^\circ \times 2 = 30^\circ$

$$180^\circ - 30^\circ = 150^\circ$$

$$150^\circ \div 2 = 75^\circ$$

$$360^\circ \div 4 = 90^\circ$$

$\angle p$ is 90°

38b. $90^\circ + 15^\circ = 105^\circ$

$$180^\circ - 105^\circ = 75^\circ$$

$$75^\circ - 45^\circ = 30^\circ$$

$\angle q$ is 30°

40a. 45 chicken pies

The number of chicken pies sold on Wednesday is 45.

40b. $80 - 50 = 30$

$$\frac{30}{50} \times 100\% = 60\%$$

The percentage is 60%.

40c. $75 \times 2.50 = 187.50$

The amount collected was \$187.50

42a. 0.4kg

42b. 2 files

44. $8 + 1 = 9$

$$9 \times 4 = 36$$

$$3 \times 8 = 24$$

$$36 - 24 = 12$$

$$60L \rightarrow 60000$$

$$60000 \div 30 = 2000$$

$$12L \rightarrow 12000$$

$$12000 \div 2000 = 6$$

The height is 6cm.

37b.

Area of $\frac{1}{4}$

$$= \pi r^2 \times \frac{1}{4} = 3.14 \times 12 \times 12 \times \frac{1}{4}$$

$$= 113.04$$

$$12 \times 6 = 72$$

$$113.04 - 72 = 41.04$$

The difference is 41.04cm^2

39a. $180^\circ - 138^\circ = 42^\circ$

$\angle ODC$ is 42°

39b. $138^\circ \div 2 = 69^\circ$

$$69^\circ + 42^\circ = 111^\circ$$

$$180^\circ - 111^\circ = 69^\circ$$

$\angle OAD$ is 69°

41. $1100 - 500 = 600$

$$3u \rightarrow 600$$

$$1u \rightarrow 200$$

$$2u \rightarrow 400$$

Jason has \$400.

43. Speed A : Speed B

$$56 : 72$$

$$7 : 9$$

$$9 - 7 = 2u$$

$$24 \times 2 = 48$$

$$2u \rightarrow 48$$

$$9u + 7u = 16u$$

$$1u \rightarrow 24$$

$$16u \rightarrow 16 \times 24 = 384\text{km.}$$

46. **March** → 100%
April → 130%
May → $\frac{90}{100} \times 130\% = 117\%$
117% - 100% = 17%
130% - 117% = 13%
17% → 7650
1% → $\frac{7650}{17} \times 1 = 450$
13% → $450 \times 13 = 5850$
The different is 5850.

48a. **2u** → 68
1u → $68 \div 2 = 34$
34 - 14 = 20

There were 20 apples left.

48b. **$34 \times 2 = 68$**
There were 68 fruits at first.

45. **$114 - 10 = 104$**
 $104 \div 10.40 = 10$

$10 \times 3 = 30$
 $30 \div 30 = 1$
The cost is \$1.

47a. **$32 \times 3 = 96$**
 $1.50 \times 1000 = 1500$
 $7500 - 2000 = 5500$
 $5500 \times 0.50 = 2750$
 $96 + 1500 + 1000 + 2750 = 5346$
The cost is \$5346

47b. **$32 \times 5 = 160$**
 $5660 - 160 = 5500$
 $1500 + 1000 = 2500$
 $5500 - 2500 = 3000$
 $3000 \div 0.50 = 6000$
 $6000 + 2000 = 8000$
The number of toys made is 8000.