RED SWASTIKA SCHOOL

RED SWASTIKA SCHOOL

2014 SEMESTRAL ASSESSMENT 1

MATHEMATICS
PAPER 1

Name : _____ ( )

Class : Primary 6 / _____

Date : 8 May 2014

BOOKLET A

15 Questions
20 Marks
Duration of Paper 1 (Booklets A & B): 50 minutes

Note:

1. **Do not open this Booklet until you are told to do so.**
2. **Read carefully the instructions given at the beginning of each part of the Booklet.**
3. **Do not waste time. If a question is difficult for you, go on to the next one.**
4. **Check your answers thoroughly and make sure you attempt every question.**
5. **In this booklet, you should have the following:**
   (a) Page 1 to Page 6
   (b) Questions 1 to 15
6. **You are not allowed to use a calculator.**

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)

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1 Find the difference in the values of the digits 7 in 789 753.

(1) 69 300
(2) 69 700
(3) 699 300
(4) 699 700

2 Which of the following is the same as 10 500 g?

(1) 10.05 kg
(2) 10.5 kg
(3) 1.05 kg
(4) 1.5 kg

3 Ali worked out a question on fractions correctly below:

$$\frac{3}{8} = \frac{12}{[\text{sticker}]} = \frac{[\text{sticker}]}{56}$$

However, he pasted two stickers over two numbers as shown. Find the sum of these two numbers.

(1) 26
(2) 35
(3) 50
(4) 53

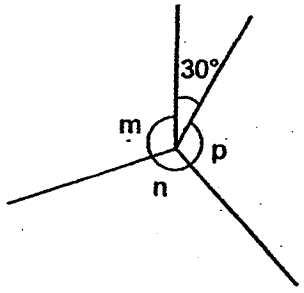
4 A furniture shop gives a discount of 40% on all items during a sale. Mrs Tan pays $120 for a table. How much is the discount?

(1) $48
(2) $72
(3) $80
(4) $200

5 Mr Pang took 30 minutes to travel from home to office when he drove at an average speed of 90 km/h. What was the distance between his house and office?

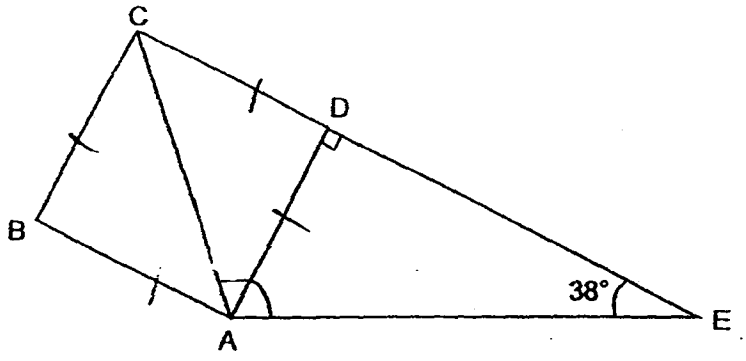
(1) 27 km
(2) 45 km
(3) 180 km
(4) 270 km

6 In the figure below, $\angle p = \angle m = \angle n$. Find $\angle m$.



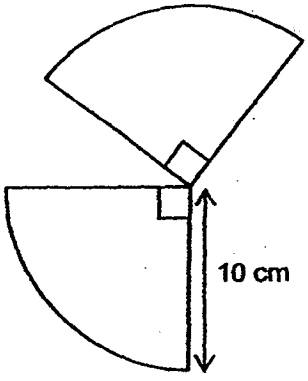
(1) 110°
(2) 120°
(3) 140°
(4) 150°

7 In the figure below, ABCD is a square and CE is a straight line. Find $\angle CAE$.



(1) 52°
(2) 97°
(3) 104°
(4) 142°

8 A piece of wire is bent to make 2 identical quadrants of radius 10 cm as shown below. Find the length of the piece of wire. (Take $\pi = 3.14$)



(1) 31.4 cm
(2) 51.4 cm
(3) 71.4 cm
(4) 102.8 cm

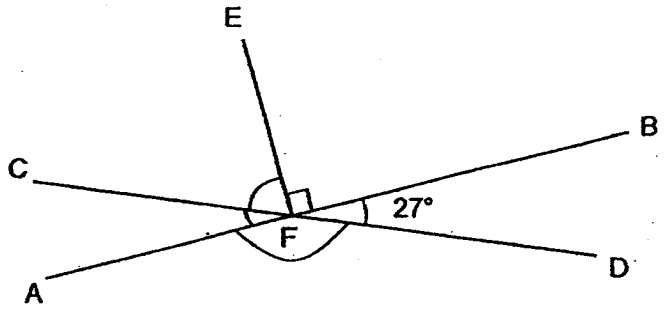
9. James had \$(3k + 5) and Peter had \$(9k – 4).
Each of them spent \$k.
How much had they left altogether in terms of k?

(1) \$(10k + 1)
(2) \$(10k + 9)
(3) \$(11k + 1)
(4) \$(11k + 9)

10. The ratio of the length to the breadth of a rectangle is 3 : 2.
Its perimeter is 90 cm. Find the length of the rectangle.

(1) 18 cm
(2) 27 cm
(3) 36 cm
(4) 54 cm

11. In the figure below, AB and CD are straight lines.
Find ∠AFD + ∠CFE.

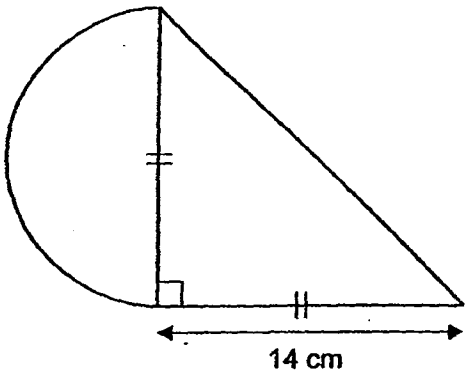


(1) 153°
(2) 189°
(3) 216°
(4) 243°

12. Andy and Betty shared a sum of money in the ratio 4 : 5.
Andy spent $\frac{1}{4}$ of his money while Betty spent $\frac{4}{5}$ of her money.
Find the ratio of the amount of money Andy had left to the total amount of money both of them had spent.

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

13. The figure is made up of a semicircle and a triangle.
Find the area of the figure. (Take $\pi = \frac{22}{7}$)



(1) 175 cm^2
(2) 252 cm^2
(3) 350 cm^2
(4) 406 cm^2

14 In a class, 20% of the pupils are boys. 30% of the boys and 40% of the girls wear spectacles. What percentage of the class **do not** wear spectacles?

(1) 30%
(2) 38%
(3) 56%
(4) 62%

15 The table below shows the prices of pens sold at a bookshop.

Items	Prices
1 pen	*50¢*
1 pack of 5 pens	*$2*
1 pack of 12 pens	*$4*

Tom needs 55 pens. What is the least amount of money Tom has to pay to get 55 pens?

(1) $20
(2) $19
(3) $18
(4) $17

RED SWASTIKA SCHOOL

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2014 SEMESTRAL ASSESSMENT 1

MATHEMATICS
PAPER 1

Name : _____ ( )

Class : Primary 6 / _____

Date : 8 May 2014

BOOKLET B

15 Questions
20 Marks

In this booklet, you should have the following:
(a) Page 7 to Page 12
(b) Questions 16 to 30

MARKS

	OBTAINED	POSSIBLE
BOOKLET A		20
BOOKLET B		20
TOTAL		40

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 Find the remainder in $123 \div 7$.

Ans: _____

17 Find the value of $6 + 12 \div 3 \times 2$.

Ans: _____

18 Find the value of 1.32×9.
Round off your answer to 1 decimal place.

Ans: _____

3

19 Find the value of $2\frac{1}{4} - \frac{2}{3}$.

Give your answer as an improper fraction.

Ans: _____

---

20 Ali bought a cake. $\frac{5}{6}$ of the cake was divided equally among his 3 children. What fraction of the cake did each child get?

Ans: _____

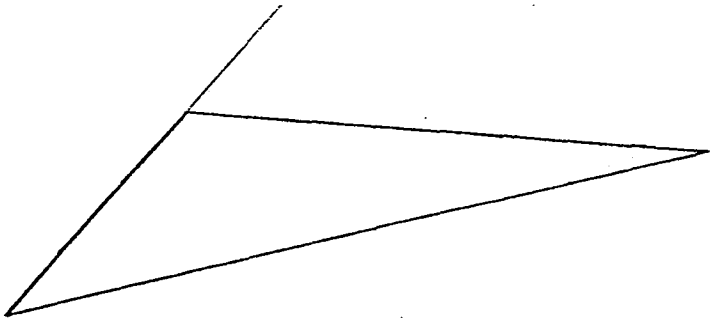
---

21 Find the value of $14 + \frac{3y+1}{2}$ when $y = 3$.

Ans: _____

3

22 Using a protractor, measure the smallest angle in the triangle below. Record the value in the space provided.



Ans: _____ °

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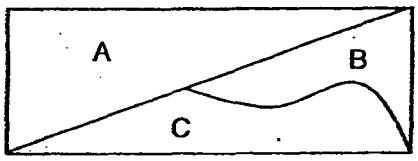
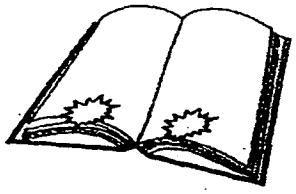
23 A rectangle is divided into three areas, A, B and C. The ratio of area B to area C is 3 : 5. Find the ratio of area A to area B to area C.



Ans: _____

2

24 Peter opens a book randomly and covers the page numbers of 2 pages of the book as shown below.



Peter gives the following hints:

- This book has 40 pages.
- One page number is a multiple of 9.
- The other page number has only two factors (1 and itself).

List one possible set of the two page numbers.

Ans: Page _____ and Page _____

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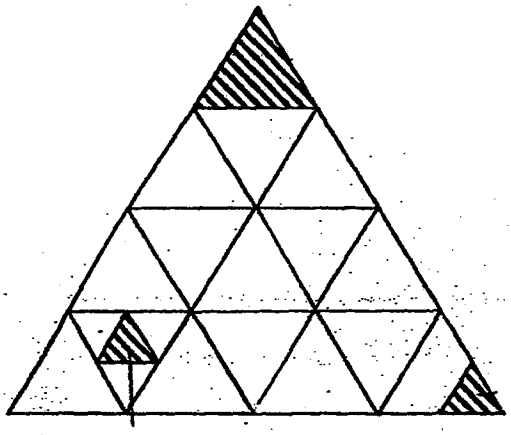
25 The figure is made up of equilateral triangles of different sizes.
What fraction of the figure is shaded?
Give your answer in the simplest form.



Ans: _____

2

Questions 26 to 30 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

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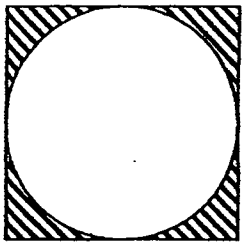
26 The figure is made up of a circle and a square.
The side of the square is 10 cm.



Find the perimeter of the shaded parts. (Take $\pi = 3.14$)

Ans: _____ cm

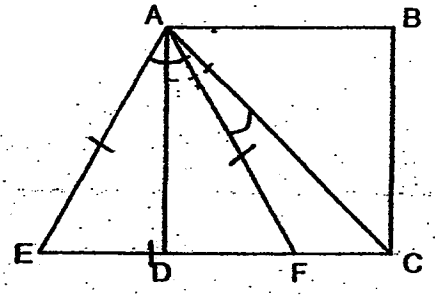
---

27 Lily's weekly expenditure had decreased by 10% to $135.
What was her weekly expenditure before the decrease?

Ans: $ _____

---

28 In the figure below, ABCD is a square and AEF is an equilateral triangle. Find $\angle FAC$.



Ans: _____ °

6

29 Tom travelled 50 km in the first part of his journey at an average speed of 100 km/h. He covered the remaining of his journey which was 60 km at an average speed of 90 km/h. How many minutes did he take to complete the whole journey?

Ans: _____ min

---

30 Gladys had some 20-cent coins and $1 coins in the ratio 5 : 2.
The total value of all the coins was $21.
She exchanged all the $1 coins to 50-cent coins.
How many 50-cent coins would she have?

Ans: _____

END OF PAPER 1

4

RED SWASTIKA SCHOOL

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2014 SEMESTRAL ASSESSMENT 1

MATHEMATICS
PAPER 2

Name : _____ ( )

Class : Primary 6 / _____

Date : 8 May 2014

18 Questions
60 Marks
Duration of Paper 2: 1 hour 40 minutes

Note:
1. Do not open this Booklet until you are told to do so.
2. Read carefully the instructions given at the beginning of each part of the Booklet.
3. Do not waste time. If a question is difficult for you, go on to the next one.
4. Check your answers thoroughly and make sure you attempt every question.
5. In this paper, you should have the following:
   (a) Page 1 to Page 13
   (b) Questions 1 to 18
6. You are allowed to use a calculator.

MARKS

	OBTAINED	POSSIBLE
PAPER 1		40
PAPER 2		60
TOTAL		100

Parent's Signature : _____

Questions 1 to 5 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.

(10 marks)

---

1 Mrs Tomy bought some cloth. After using $6\frac{4}{5}$ m of it for cushions and another $5\frac{3}{8}$ m of it for curtains, she had $1\frac{1}{2}$ m of the cloth left. How many metres of cloth did she buy?

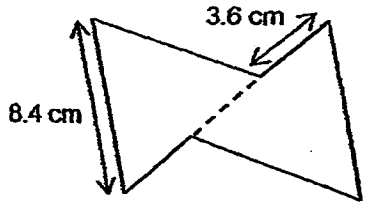
Ans: _____ m

---

2 Mrs Kim paid $2 500 for a computer which included the 7% GST.
How much was the GST?
(Give your answer to the nearest dollar.)

Ans: $_____

3 The figure is made up of 2 identical equilateral triangles.
Find the perimeter of the figure.



Ans: _____ cm

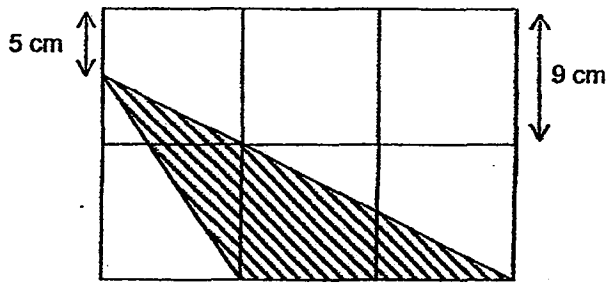
---

4 Lynn had some money at first. After buying 2 pencils at \$3p each and a story book for \$5, she had \$(2p – 1) left. How much money did she have at first in terms of p?

Ans: \$ _____

---

5 . The figure below shows 6 identical squares and a shaded triangle. Find the area of the shaded triangle.



Ans: _____ cm^2

4

For Questions 6 to 18, 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)

---

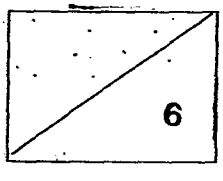
6 A shop gave different discounts at different time of the day. In the morning, Mr Lim bought a sofa for $1 050 after a discount of 25%. In the afternoon, Mr Tan bought a similar sofa for $1 120. Find the percentage discount given to Mr Tan.

Ans: _____ [3]

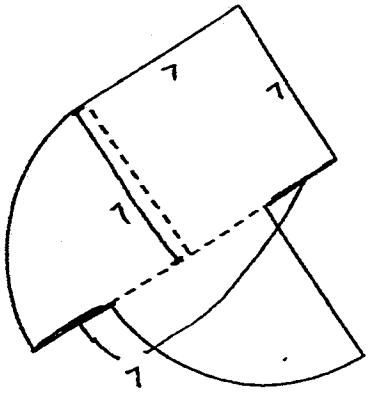
---

7 The ratio of Jane's amount of money to Leonard's amount of money was 5 : 7. Jane received another $110 while Leonard spent $8. As a result, Leonard had $60 less than Jane. How much money did Jane have at first?

Ans: _____ [3]



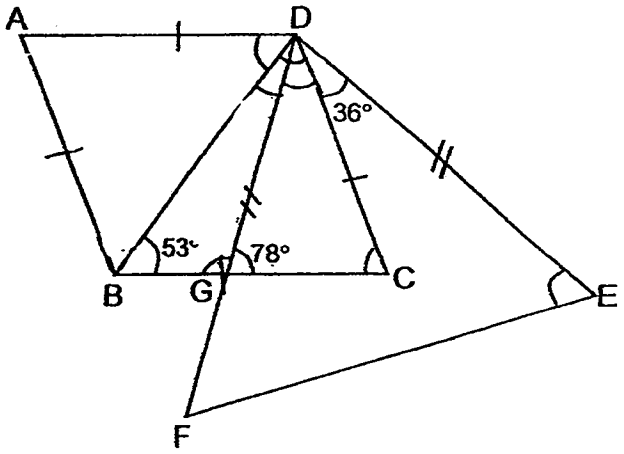
8 The figure below is made up of a square and two identical quadrants. The radius of the quadrants is 7 cm. Find the perimeter of the figure. (Take $\pi = \frac{22}{7}$)



Ans: _____. [3]

---

9 In the figure below, not drawn to scale, ABCD is a rhombus and DEF is an isosceles triangle. Find ∠DEF.



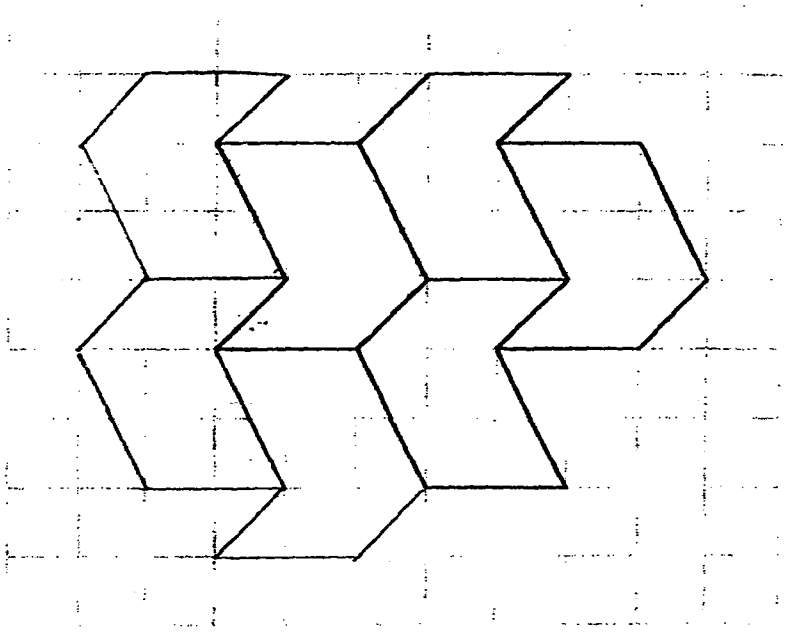
Ans: _____ [3]

6

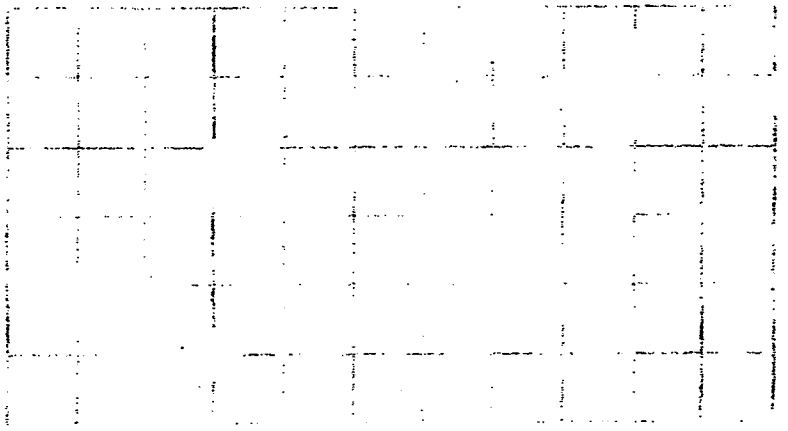
10 Based on tessellation below, answer Questions (a) and (b).

(a) Shade the unit shape of the tessellation. [1]

(b) Extend the tessellation by drawing **3 more** unit shapes in the space provided. [1]



(c) In the grid below, two sides of a parallelogram are drawn. Complete the parallelogram by drawing the other two sides. [1]



3

11 Aaron and Benjamin started jogging at the same time along a 4-km track from the same starting point. Both did not change their speeds from start to finish. Aaron jogged at 125 m/min. Benjamin took 8 minutes more to finish the jog.

(a) How long did Aaron take to finish the jog?

(b) What was Benjamin's speed?

(c) How far behind was Benjamin from Aaron when Aaron finished his jog?

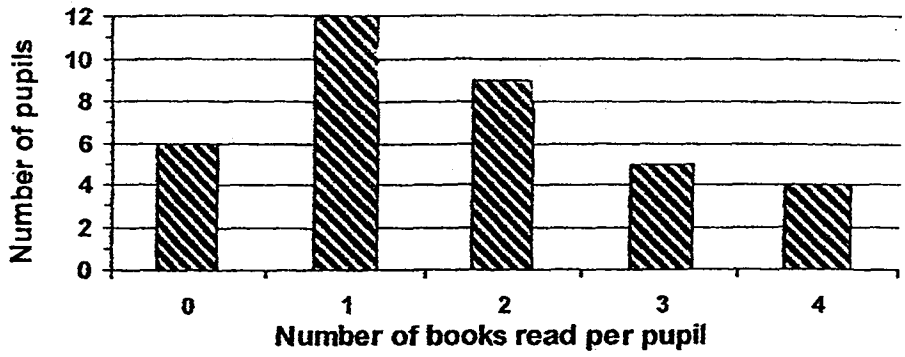
Ans: (a) _____ [1]

(b) _____ [2]

(c) _____ [2]

5

12 The graph shows the number of books read by the pupils in a class.



(a) What was the total number of books read by all the pupils?

(b) What percentage of the pupils in the class read at least 3 books?

Ans: (a) _____ [1]

(b) _____ [2]

3

13 Mark and Tina shared some stickers. Mark gave 25% of his stickers to Tina. Then Tina gave 50% of her stickers to Mark. In the end, the ratio of the number of stickers Mark had to the number of stickers Tina had was 14 : 5.

(a) Find the ratio of the number of Mark's stickers to that of Tina's stickers at first.

(b) In the end, Mark had 90 stickers more than Tina. Find the total number of stickers both had altogether.

Ans: (a) _____ [2]

(b) _____ [2]

4

14 Pins are used to form the pattern shown below.

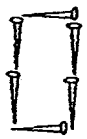


Figure 1

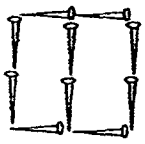


Figure 2

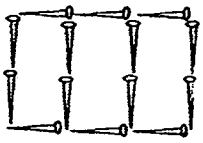


Figure 3

Figure	Number of rectangles	Number of pins
1	1	6
2	2	10
3	3	14

(a) How many pins were used to form Figure 8?

(b) Find the number of rectangles that can be formed with 98 pins.

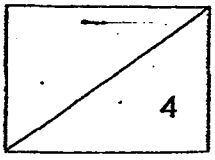
Ans: (a) _____ [2]

(b) _____ [2]

4

15 Alice, Beth and Charles shared a sum of money. Alice received $\frac{4}{9}$ of what Beth received. Charles received $\frac{2}{3}$ as much as Beth. Beth gave $420 to Alice and another sum of money to Charles. As a result, all the three had the same amount of money. How much did Beth give to her two friends in total?

Ans: _____ [4]



16 The mass of a box containing 9 similar bags and 15 identical books is 48 kg. The mass of the empty box is 750 g. The mass of 3 bags is the same as the mass of 2 books.

(a) Find the mass of 1 bag in kg.

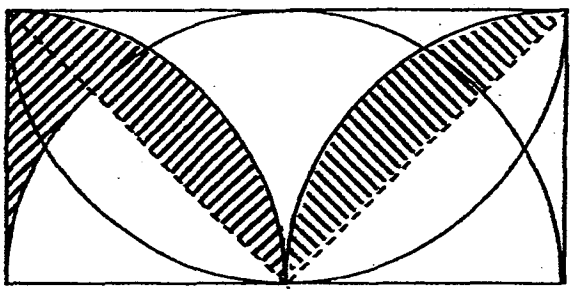
(b) Find the difference in the mass of 1 book and 1 bag in kg.
(Give your answer to 1 decimal place.)

Ans: (a) _____ [3]

(b) _____ [2]

5

17 The figure is drawn on a rectangle using 2 identical quadrants and 2 identical semicircles of the same radius 14 cm. Find the total area of the shaded parts. (Take $\pi = \frac{22}{7}$)

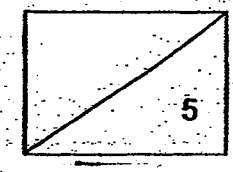


Ans: _____ [5]

18 Sandra and Gloria went shopping with a total of $1 100. Sandra spent $200 while Gloria spent 40% of her money. As a result, the amount of money Sandra had left was 25% of the total amount of money left. Find the difference in the amount of Sandra and Gloria had at first.

Ans: _____ [5]

END OF PAPER 2



EXAM PAPER 2014
LEVEL : PRIMARY 6
SCHOOL : RED SWASTIKA
SUBJECT : MATHS
TERM : SA1

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

Q16 4

Q17 14

Q18 11.9

Q19 $^{19}/_{12}$

Q20 $^{5}/_{18}$

Q21 19

Q22 18

Q23 8:3:5

Q24 Page 18 and Page 19

Q25 $^{3}/_{32}$

Q26 71.4cm

Q27 $150

Q28 15

Q29 70 mins

Q30 28

PAPER 2

Q1 $6^4/_5 + 5^3/_8 + 1^1/_2$
$= 13^{27}/_{40}$

She bought $13^{27}/_{40}$m.

Q2 100% + 7% = 107%
$^7/_{107} \times \$2500 = \$164$

The GST was $164.

Q3 4 x 8.4 = 33.6
33.6 + 3.6 x 2
= 40.8

The perimeter is 40.8m.

Q4 $(2p – 1 + 5)
= $(2p+4)

$(2p + 4 + 3p x 2)
= $(8p +4)

She had $(8p +4).

Q5 9 x 2 = 18
18 – 5 = 13
½ x 8 x 13 = 117

The area is 117 cm^2.

Q6 100% - 25% = 75%
75% → $1050
100% → $1400
$1400 - $1120 = $280
$^{280}/_{1400} \times 100\% = 20\%$

The discount given was 20%.

Q7 $60 - $8 = $52

2 units → $110 - $52 = $58
5 units → $58 ÷ 2 x 5 = $145

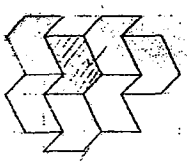
Jane had $145 at first.

Q8 $\frac{1}{2} \times \frac{22}{7} \times 14\text{cm} = 22\text{cm}$
$4 \times 7\text{cm} = 28\text{cm}$
$22\text{cm} + 28\text{cm} = 50\text{cm}$

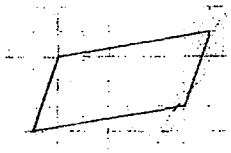
The perimeter is 50cm.

Q9 $\angle BDC \rightarrow 53^{\circ}$
$\angle BGD \rightarrow 180^{\circ} - 78^{\circ} = 102^{\circ}$
$\angle BDG \rightarrow 180^{\circ} - 102^{\circ} - 53^{\circ} = 25^{\circ}$
$\angle GDC \rightarrow 53^{\circ} - 25^{\circ} = 28^{\circ}$
$\angle FDE \rightarrow 28^{\circ} + 36^{\circ} = 64^{\circ}$
$\angle DEF \rightarrow (180^{\circ} - 64^{\circ}) \div 2 = 38^{\circ}$

Q10 (a)/(b)



(c)



Q11 (a) $400\text{m} \div 125\text{m/min} = 32\text{mins}$

He took 32 minutes.

(b) $32\text{ min} + 8\text{ min} = 40\text{ min}$
$4000\text{m} / 40\text{min} = 100\text{m/min}$

His speed was 100m/min.

(c) $8\text{min} \times 100\text{m/min} = 800\text{m}$

The distance is 800m.

Q12 (a) $12x1 + 9x2 + 5x3 + 4x4 = 61$

The total number of book is 61.

(b) $6 + 12 + 9 + 5 + 4 = 36$
$\frac{9}{36} \times 100\% = 25\%$

The percentage is 25%.

Q13 (a) (working backwards)

	M	:	T
(after)	14	:	5
50% to Mark	9	:	10
25 % to Tina	12	:	7

The ratio at first is 12 : 7.

(b) 9 units → 90
19 units → 190
Total number of stickers is 190.

Q14 (a) $(8 - 1) \times 4 + 6 = 34$

34 pins to form figure 8.

(b) $98 - 6 = 92$
$92 \div 4 = 23$
$23 + 1 = 24$

24 rectangles can be formed.

Q15

	A	:	B	:	C	Total
	4	:	9			
			3	:	2 (x3)	to make B to same
(x3)	4	:	9	:	6	19
(all the same)	1	:	1	:	1	3
	12	:	27	:	18	57

$19 - 12 = 7$
$27 - 19 = 8$
7 units → \$420
8 units → $\$420 \div 7 \times 8$
$= \$480$

She gave \$480 to her two friends.

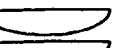
Q16(a) 9Ba + 15Bo → 48 000g – 750g
= 47 250g
21Bo → 47250g
1 Bo → $47250g \div 21 = 2250g = 2.25kg$

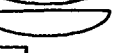
3Ba + 5Bo → $47250g \div 3 = 15750g$
3Ba → $15750 - 2250g \times 5 = 4500g$
1Ba → $4500g \div 3 = 1500g = 1.5kg$
The bag is 1.5kg.

(b) $2.25kg - 1.5kg = 0.75kg$
$\approx 0.8kg$

The difference is 0.8kg.

Q17 1  $\rightarrow \frac{1}{4} \times {}^{22}/_{7} \times 14cm \times 14cm = 154cm^2$

1  $\rightarrow 154cm^2 - \frac{1}{2} \times 14cm \times 14cm = 56cm^2$

2  $\rightarrow 56cm^2 \times 2 = 112cm^2$

1  $\rightarrow 14cm \times 14cm = 196cm^2$

1 $\rightarrow 196cm^2 - 154cm^2 = 42cm^2$

$42cm^2 \div 2 = 21cm^2$

$21cm^2 + 112cm^2 = 133cm^2$

The total area of the shaded parts is $133cm^2$.

Q18 6 units $\rightarrow$ \$1100 - \$200 = \$900

S (at first) $\rightarrow$ \$900 ÷ 6 + \$200

$\rightarrow$ \$350

G (at first) $\rightarrow$ \$900 ÷ 6 x 5 = \$750

\$750 - \$350 = \$400

The difference in amount is \$400.