



**NANYANG PRIMARY SCHOOL**  
**FIRST SEMESTRAL EXAMINATION**  
**2013**

**PRIMARY 6**  
**MATHEMATICS**  
**PAPER 2**

**DURATION: 1 HOUR 40 MINUTES**

<b>Paper 2 Total</b>	<b>/ 60</b>
<b>GRAND TOTAL</b>	<b>/ 100</b>

Name: \_\_\_\_\_ (            )

Class: Primary 6 (            )

Date: \_\_\_\_\_

Parent's Signature: \_\_\_\_\_

Any query on marks awarded should be raised by 22 May 2013. We seek your understanding in this matter as any delay in the confirmation of marks will lead to delays in the generation of results.

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

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**ANSWER ALL QUESTIONS. YOU ARE ALLOWED TO USE A CALCULATOR.**



**PAPER 1 (BOOKLET 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 numbers is not a factor of 84?

(1) 7

(2) 12

(3) 27

(4) 42

2 Arrange the following fractions in increasing order.

$$\frac{2}{3}, \frac{5}{8}, \frac{1}{4}$$

(1)  $\frac{5}{8}, \frac{2}{3}, \frac{1}{4}$

(2)  $\frac{1}{4}, \frac{2}{3}, \frac{5}{8}$

(3)  $\frac{2}{3}, \frac{5}{8}, \frac{1}{4}$

(4)  $\frac{1}{4}, \frac{5}{8}, \frac{2}{3}$

3 Find the value of  $3203 \div 5$ .

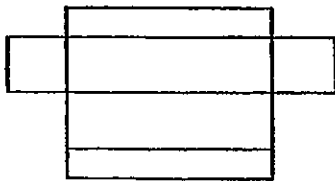
- (1) 64.6
- (2) 640.6
- (3) 646
- (4) 6406

4 The number of boys in a club increased to 25 after 5 more boys joined the club. Find the percentage increase in the number of boys.

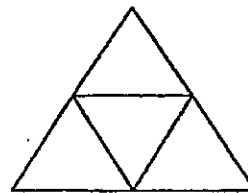
- (1)  $16\frac{2}{3}\%$
- (2) 20%
- (3) 25%
- (4) 80%

5 Which one of the following figures is the net of a solid?

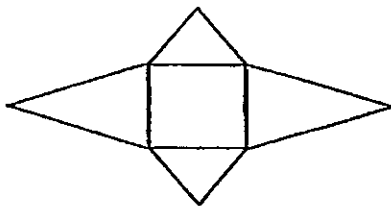
(1)



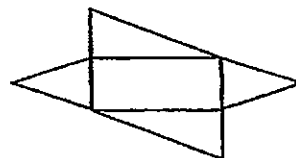
(2)



(3)



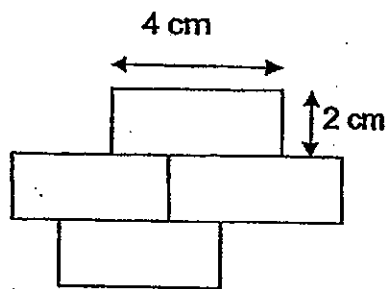
(4)



6 What is the area of a square with a perimeter of 64 cm?

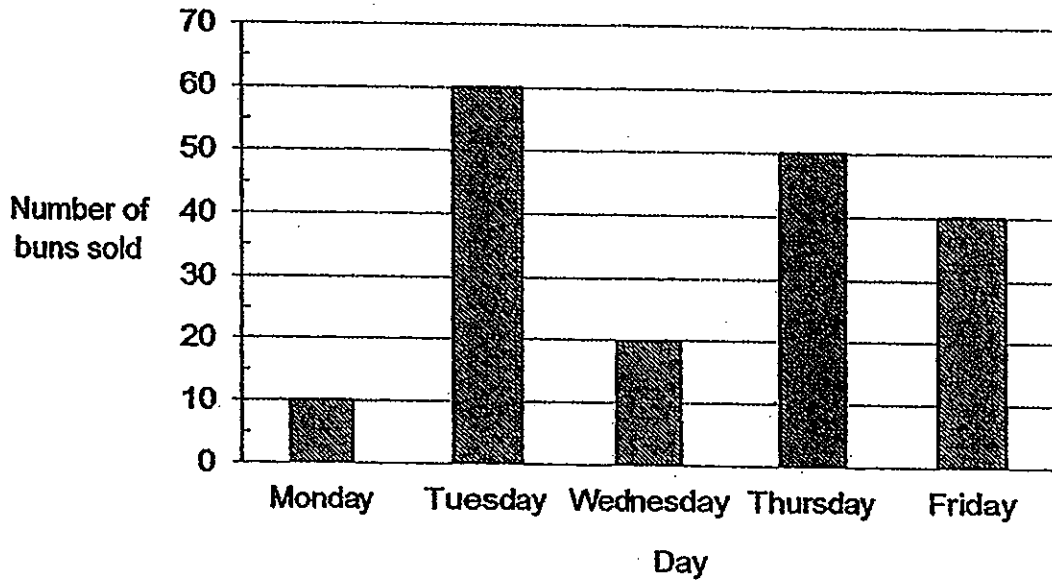
- (1)  $8 \text{ cm}^2$
- (2)  $32 \text{ cm}^2$
- (3)  $64 \text{ cm}^2$
- (4)  $256 \text{ cm}^2$

7 The figure below is made up of 4 identical rectangles. What is the perimeter of the figure?



- (1) 20 cm
- (2) 28 cm
- (3) 36 cm
- (4) 48 cm

- 8 The bar graph below shows the number of buns sold by a confectionery shop from Monday to Friday.



On which day was the number of buns sold twice that of the number of buns sold on Wednesday?

- (1) Monday
- (2) Tuesday
- (3) Thursday
- (4) Friday

9 Which one of the following numbers is the largest odd number?

(1) 3598

(2) 3859

(3) 3895

(4) 3958

10 Which one of the following statements is not true?

(1)  $3:7 = 6:14$

(2)  $15:12 = 5:4$

(3)  $30:10 = 9:2$

(4)  $50:25 = 2:1$

11 What is the value of  $(\frac{2}{3} - \frac{1}{2}) \times \frac{9}{4}$  ?

(1)  $\frac{2}{27}$

(2)  $\frac{3}{8}$

(3)  $2\frac{5}{8}$

(4)  $13\frac{1}{2}$

12 Emma is  $w$  years old now. Keith is 3 times as old as Emma now. Hamid is 4 years older than Keith now. How old was Hamid 5 years ago?

(1)  $(w + 2)$  years old

(2)  $(w + 12)$  years old

(3)  $(3w - 1)$  years old

(4)  $(3w + 9)$  years old



13 Mr Hewitt left his house at 7.45 a.m. and drove a distance of 105 km to his office. What time did he arrive at his office given his average speed for the journey was 70 km/h?

(1) 8.15 a.m.

(2) 8.20 a.m.

(3) 8.50 a.m.

(4) 9.15 a.m.

14 The length of a rectangle is increased by 20% and its breadth is decreased by 20%. Express the area of the new rectangle as a percentage of the area of the original rectangle.

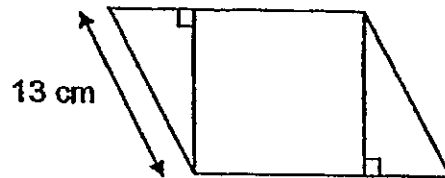
(1) 64%

(2) 96%

(3) 150%

(4) 192%

- 15 The figure below is made up of a square and 2 identical right-angled triangles. The area of the square is  $144 \text{ cm}^2$ . The perimeter of the figure is  $60 \text{ cm}$ . Find the area of one of the triangles.



- (1)  $30 \text{ cm}^2$
- (2)  $32.5 \text{ cm}^2$
- (3)  $60 \text{ cm}^2$
- (4)  $72 \text{ cm}^2$

Name: \_\_\_\_\_ (            ) Class: Pr 6 (            )

P6 SA1 2013

**PAPER 1 (BOOKLET B)**

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 Simplify  $20y + 5 + 2y - 6y \times 3$ .

Ans: \_\_\_\_\_

---

17 Find the value of  $4990 - 2910 + 90$ .

Ans: \_\_\_\_\_

---

18 Find the value of  $(19 + 2 \times 3) - 28 \div 7$ .

Ans:

---

19 What is the missing fraction in the box?

$$93.651 = 93 + \frac{3}{5} + \boxed{?} + 0.011$$

Ans:

---

20 A total of \$2643.58 was collected from a Flag Day on Saturday. Round off this amount to the nearest ten dollar.

Ans: \$

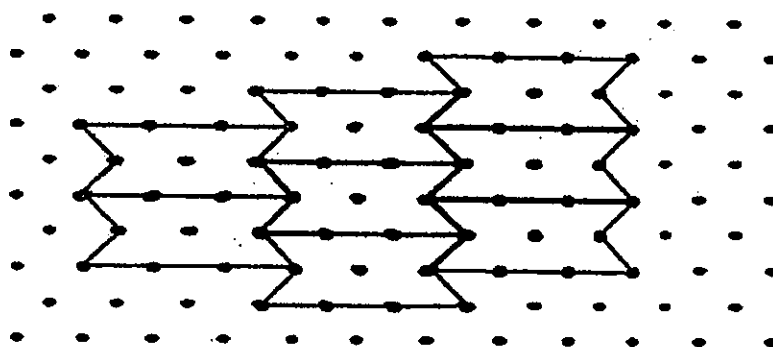
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- 21 The usual price of a watch was \$250 before GST. Geok Im bought it at 20% discount. How much did she pay for the watch inclusive of the 7% GST?

Ans: \$ \_\_\_\_\_

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- 22 Shade a unit shape in the tessellation below.

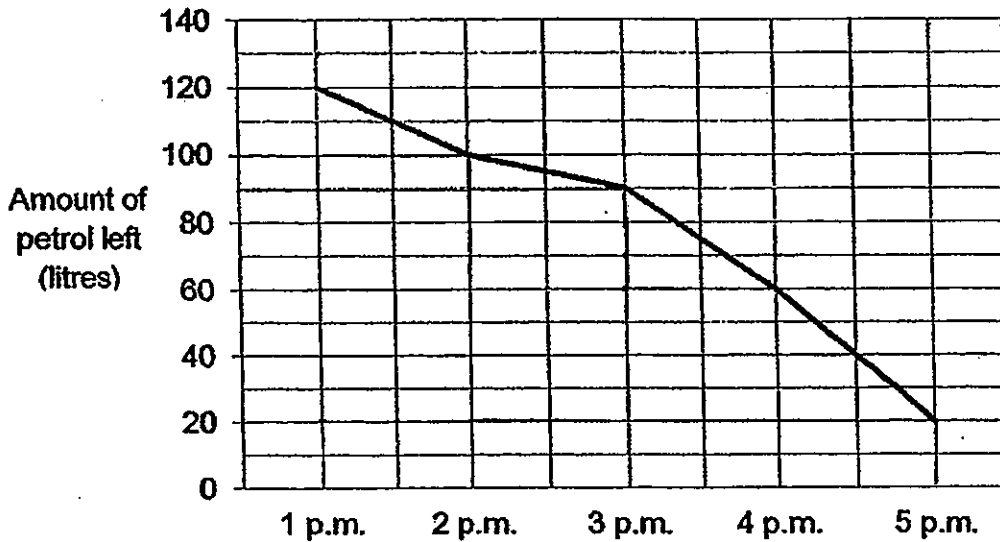


- 23 Express 8045 g in kg.

Ans: \_\_\_\_\_ kg

---

- 24 The graph below shows the amount of petrol left in the tank of a lorry from 1 p.m. to 5 p.m..



How much petrol was used from 2 p.m. to 5 p.m.?

Ans: \_\_\_\_\_ l

---

- 25 A sum of money was shared between Gary and Ahmad in the ratio 4 : 7. Gary received \$21 less than Ahmad. Find the sum of money shared by the two children.

Ans: \$ \_\_\_\_\_

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. Marks will be awarded for relevant number sentences. For questions which require units, give your answers in the units stated.

(10 marks)

- 
- 26 Mei needs twelve 250-gram packets of flour to bake cakes. Instead of buying 250-gram packets, she decides to buy 500-gram packets. How many 500-gram packets of flour does she need to buy?

Ans: \_\_\_\_\_

---

- 27 Pencils are sold at the following prices as shown in the table below.

Pencil	Price
1 pencil	\$0.15
A pack of 5 pencils	\$0.65
A pack of 10 pencils	\$1.20

What is the minimum amount of money that Sujata has to pay for 38 pencils?

Ans: \$ \_\_\_\_\_

---

- 28 A cup is  $\frac{1}{3}$  filled with water. All the water from the cup is poured into an empty jug. The capacity of the jug is 4 times that of the cup. There are 10 ml of water in the jug now. How much more water is needed to fill the jug to the brim?

Ans: \_\_\_\_\_ ml

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- 29 Ali cycled from his house to the library at an average speed of 16 km/h and cycled back from the library to his house at an average speed of 20 km/h. He took 27 minutes to complete the whole journey. Find the distance between Ali's house and the library.

Ans: \_\_\_\_\_ km

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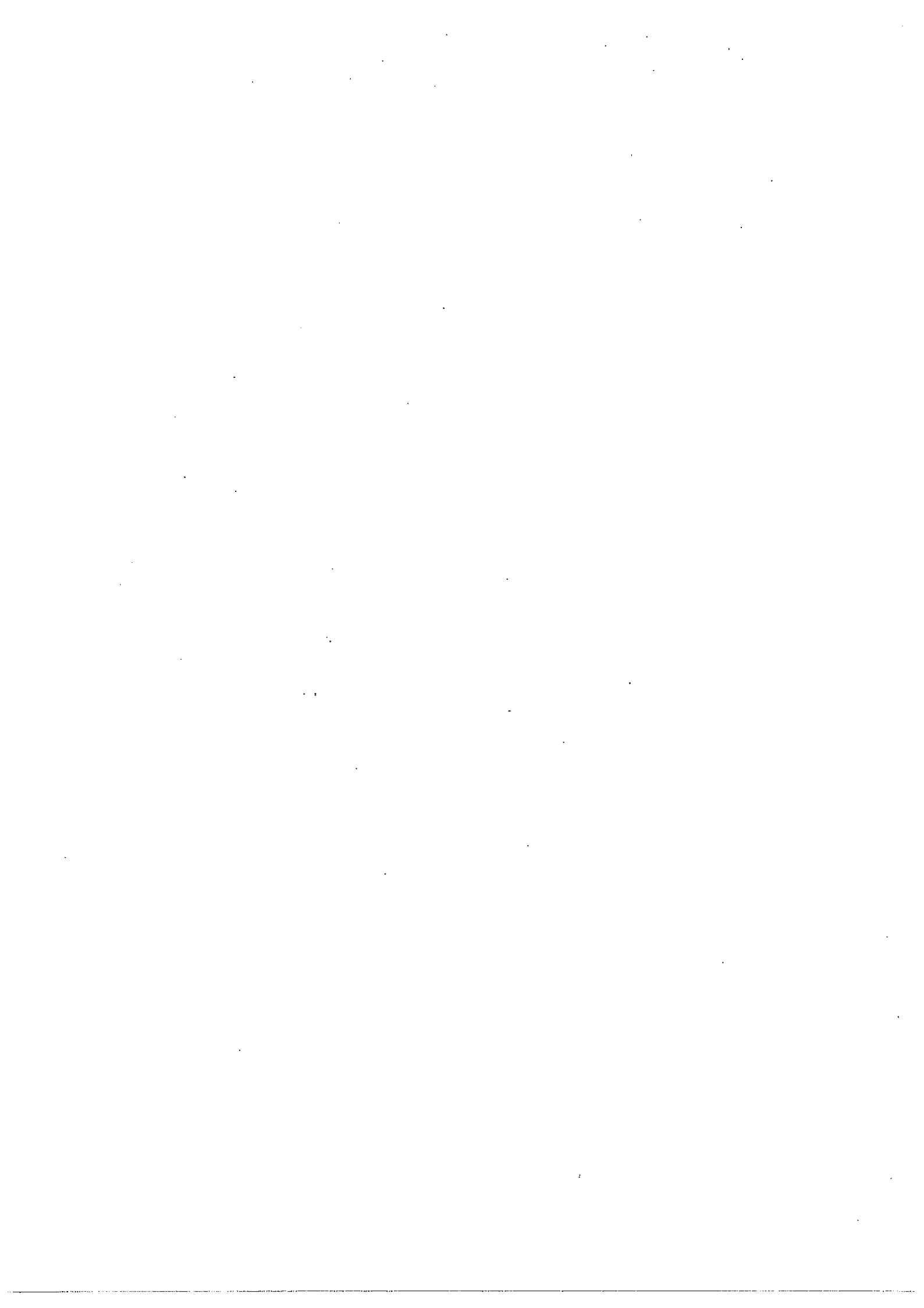
- 30 Study the table below. The average mass of the 4 children is 50 kg. Given that the ratio of Isabelle's mass to Ranjit's mass is 11 : 10, find Meng Chuan's mass.

Name	Mass (kg)
Mary	54
Isabelle	?
Meng Chuan	?
Ranjit	50

Ans: \_\_\_\_\_ kg

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**\*\*\*END OF PAPER\*\*\***





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**PAPER 2**

Questions 1 to 5 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. Marks will be awarded for relevant number sentences. For questions which require units, give your answers in the units stated.

(10 marks)

- 
- 1 If  $m = 2$ , find the value of  $28m \times 5 - 2m \times 10$ .

Ans: \_\_\_\_\_

- 
- 2 Mrs Boey drove at an average speed of 72 km/h from her office to her son's school in 40 minutes. How much time would she have saved when she increased her speed by 8 km/h?

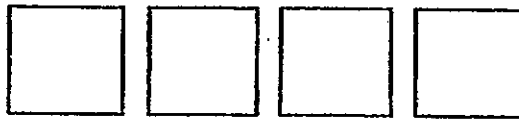
Ans: \_\_\_\_\_ min

- 3 The mass of Parcel A and Parcel C are 200 g and 800 g respectively. Parcel A is 250 g lighter than Parcel B. Find the ratio of the mass of Parcel B to the total mass of Parcel A and Parcel C. Express the answer in its simplest form.

Ans: \_\_\_\_\_

---

- 4 A piece of steel wire, measuring 240 cm long, is used up completely to form 4 identical squares as shown below. Find the length of one side of each of the squares.



Ans: \_\_\_\_\_ cm

---

- 5  $\frac{4}{5}$  of Muthu's height is equal to  $\frac{2}{3}$  of George's height. How many times is George as tall as Muthu?

Ans: \_\_\_\_\_

---

For questions 6 to 18, show your working clearly in the space provided for each question and write your answers in the spaces provided. Marks will be awarded for relevant number sentences. For questions which require units, give your answers in the units stated.

The number of marks available is shown in brackets [ ] at the end of each question or part question.

(50 marks)

- 6 The table below shows the postage charges for sending parcels to Happyland.

Mass of parcel	Postage charges
First 40 g	\$1.00
Every additional 50 g or part thereof	\$1.20

- (a) Find the postage charges for sending a parcel weighing 80 g to Happyland.
- (b) Kylar wants to send a parcel weighing 364 g to his friend in Happyland. How much must he pay for the postage?

Ans: (a) \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [2]

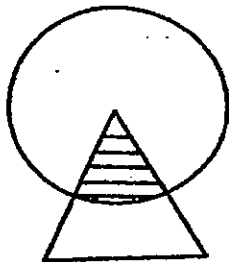
- 7 A van left Town E at 11 00 and travelled towards Town F. Two hours later, a car left Town E for Town F and travelled along the same route. The car passed the van at 16 00. The average speed of the car was 40 km/h faster than the van. Find the average speed of the van.

Ans:

[3]

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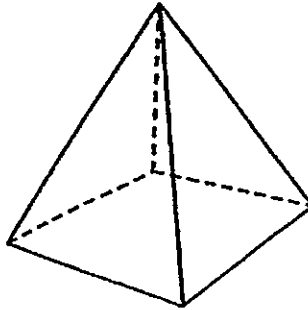
8. A triangle and a circle overlap to form the figure below. The ratio of the area of the triangle to that of the circle is 7 : 10. Given that  $\frac{1}{5}$  of the circle is shaded, find the ratio of the shaded part of the figure to its unshaded part.



Ans: \_\_\_\_\_ [3]

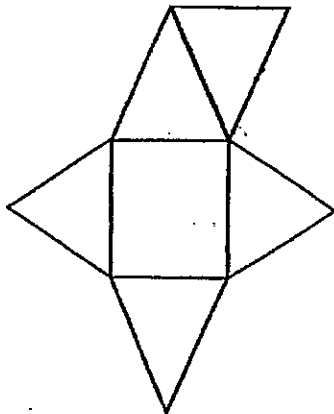
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- 9 (a) Study the figure shown below. How many triangular faces does it have?



- (b) In the following figure, cross out (X) the extra shape to make it the net of a solid. [1]

- (c) Name the solid that can be formed with the net obtained.



Ans: (a) \_\_\_\_\_ [1]

(c) \_\_\_\_\_ [1]



- 10 The table below shows the number of hours which some pupils spent on their homework in a week.

Number of hours spent on homework by each pupil	4	8	12	16
Number of Pupils	2	2	?	3

- (a) The total number of hours which the pupils spent on their homework in a week was 108. How many pupils spent 12 hours on their homework?
- (b) What was the average number of hours spent by each pupil in a week?

Ans: (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [1]

- 11 Su Lin's monthly income is \$350 less than her brother. Every month, each of them spends an equal amount of \$500 and saves the rest of their money. Su Lin saves a total of \$2100 and her brother saves a total of \$4200 after a few months. What is their total monthly income?

Ans: \_\_\_\_\_ [4]

---

**12** Box A contains some red and blue beads. Box B contains twice as many beads as Box A. Box B contains only red beads. In Box A, the ratio of the number of red beads to the number of blue beads is 7 : 5.

(a) What fraction of the total number of beads in both boxes are blue?

(b) There are 85 more red beads in Box B than in Box A. Find the total number of beads in both boxes.

Ans: (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [2]

---

- 13 At first, 25% of Krishnan's money was the same as  $33\frac{1}{3}\%$  of Jaden's money. After Jaden received \$60 from his father and Krishnan spent \$256, Jaden then had  $2\frac{1}{2}$  times as much money as Krishnan
- (a) How much money did Krishnan have at first?
- (b) How much money did Jaden have in the end?

Ans: (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [2]

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- 14 The figures below are made up of circles and rectangles. Study the figures carefully and answer the following questions.

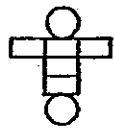


Figure 1

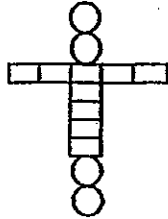


Figure 2

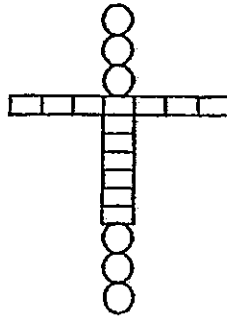


Figure 3

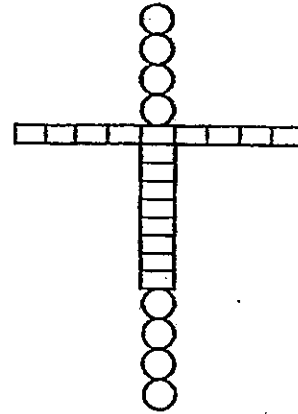


Figure 4

Figure	1	2	3	4
Number of Circles	2	4	6	8
Number of Rectangles	5	9	13	17

- (a) How many circles are needed to form Figure 14?  
 (b) How many rectangles are needed to form Figure 50?  
 (c) How many more rectangles than circles are there in Figure 80?

Ans: (a) \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [1]

(c) \_\_\_\_\_ [2]

- 15 Figure 1 is made up of a rectangle and 2 identical isosceles triangles. The height of the triangle is equal to the breadth of the rectangle as shown in Figure 1. The length of the rectangle is 18 cm. The length of AB is 15 cm. Figure 2 is made up of 4 sets of Figure 1. The area of figure 2 is  $1728 \text{ cm}^2$ . Find the perimeter of Figure 2.

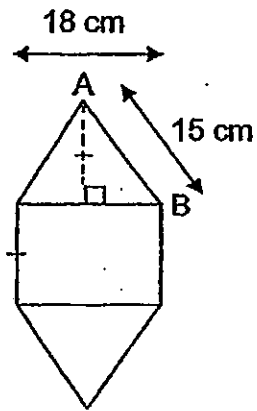


Figure 1

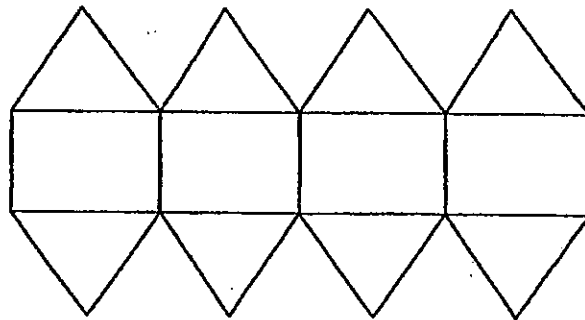


Figure 2

Ans: \_\_\_\_\_ [4]

- 16 The perimeter of a rectangle is  $1\frac{5}{6}$  times the perimeter of a square. The area of the square is  $225 \text{ cm}^2$ . The length of the rectangle is 1.2 times the breadth of the rectangle. Find the area of the rectangle.

Ans: \_\_\_\_\_ [5]

---

- 17 There were 2535 chicken pies and apple pies at first. More pies were baked. As a result, there was a 20% increase in the number of chicken pies and a 60% increase in the number of apple pies. The ratio of the number of chicken pies to that of apple pies then became 3 : 8. Find the number of chicken pies at first.

Ans: \_\_\_\_\_ [5]



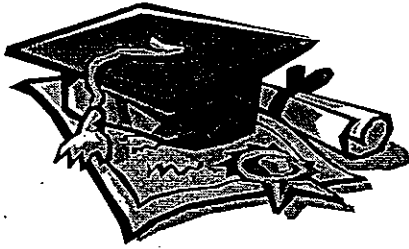
18. There were some oranges and apples at a fruit stall. The ratio of the number of oranges to that of apples was 5 : 3. In the morning,  $\frac{3}{7}$  of the oranges and some apples were sold. The ratio of the number of oranges to that of apples became 10 : 7. The fruit seller bought 60 oranges and 240 apples in the afternoon. In the end, the number of oranges left was the same as the number of apples left. How many apples were there at the fruit stall at first?

Ans: \_\_\_\_\_ [5]

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**END OF PAPER**





# ANSWER SHEET

**EXAM PAPER 2013**

**SCHOOL : NANYANG**

**SUBJECT : PRIMARY 6 MATHEMATICS**

**TERM : SA1**

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

16)  $4y + 5$

17) 2170

18) 21

19)  $1/25$

20) \$2640

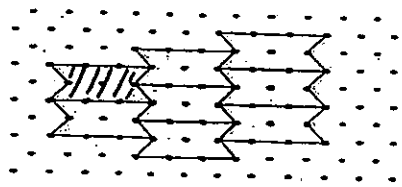
21) \$214

22)

23) 8.045kg

24) 80

25) \$77



26) 6

27) \$4.70

28) 110ml

29) 4

30) 41kg

**Paper 2**

1)  $140\text{m} - 20\text{m} = 120\text{m}$   
 $120 \times 2 = 240$

2)  $40/100 = 2/3$   
 $72 \times 2/3 = 48$   
 $48 \div 80 = 3/5$   
 $= 36/60$   
 $40 - 36 = 4 \text{ min}$

$$\begin{aligned} 3) & 200 + 250 = 450 \\ & 200 + 800 = 1000 \\ & 450 : 1000 \\ & = 9 : 20 \end{aligned}$$

$$\begin{aligned} 4) & 4 \times 4 = 16 \\ & 240 \div 16 = 15\text{cm} \end{aligned}$$

$$\begin{aligned} 5) & \text{GH} : \text{MH} \\ & 6 : 5 \end{aligned}$$

$$\begin{aligned} & 6/5 - 11/5 \\ & = 11/5 \end{aligned}$$

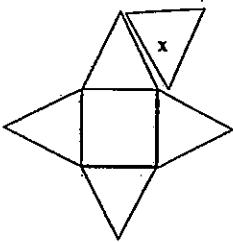
$$\begin{aligned} 6) \text{a)} & \$1.00 + \$1.20 = \$2.20 \\ \text{b)} & 364 - 40 = 324 \\ & 324 \div 50 \approx 7 \\ & \$1.00 + \$1.20 \times 2 = \$9.40 \end{aligned}$$

$$\begin{aligned} 7) & \text{T}(1) : \text{T}(2) \\ & 5 : 3 \end{aligned}$$

$$\begin{aligned} & \text{S}(1) : \text{S}(2) \\ & 3 : 5 \\ \text{Diff} & \rightarrow 2\text{units} \rightarrow 40 \\ & 1\text{unit} \rightarrow 20 \\ & 3\text{units} \rightarrow 60\text{km/h} \end{aligned}$$

$$8) 2 : 13$$

$$\begin{aligned} 9) & \text{a)} 4 \\ & \text{b)} \end{aligned}$$



c) pyramid

10)a)  $4 \times 2 = 8$

$8 \times 2 = 16$

$16 \times 3 = 48$

$48 + 16 + 8 = 72$

$108 - 72 = 36$

$36 \div 12 = 3$

b)  $3 + 2 + 2 + 3 = 10$

$108 \div 10 = 10\frac{4}{5}$

11)  $\$4200 - \$2100 = \$2100$

$\$2100 \div \$350 = 6$

$\$4200 \div 6 = \$700$

$\$700 + \$500 = \$1200$

$\$1200 - \$350 = \$850$

$\$850 + \$1200 = \$2050$

12)a)  $7u + 5u = 12u$

$12u \times 2 = 24u$

$24u + 12u = 36u$

$5 \div 36 = 5/36$

b)  $24u - 7u = 17u$

$85 \div 17 = 5$

$5 \times 36 = 180$

13)a) 400

b) 360

14)a)  $14 \times 2 = 28$

b)  $50 \times 2 = 100$

$100 \times 2 + 1 = 201$

c)  $80 \times 2 = 160$

$160 \times 2 + 1 = 321$

$321 - 160 = 161$

15)  $1728 \div 4 = 432$

$432 \div 2 = 216$

$216 \div 18 = 12$

$16 \times 15 = 240$

$240 + 24 = 264\text{cm}$

$$16) \sqrt{225} = 15$$

$$(15+15) \times 2 = 60$$

$$60 \times 15/6 = 110$$

$$110 \div 2 = 55$$

$$55 \div 2.3 = 25$$

$$25 \times 1.2 = 30$$

$$25 \times 30 = 750\text{cm}^2$$

$$17) L : A$$

$$3 : 8 - \text{units (u)}$$

$$2\frac{1}{2} : 5$$

$$= 1 : 2 - \text{parts (p)}$$

$$3p \rightarrow 2535$$

$$1p \rightarrow 845$$

$$120 \rightarrow 3$$

$$20 \rightarrow \frac{1}{2}$$

$$100 \rightarrow 2\frac{1}{2}$$

$$160 \rightarrow 8$$

$$20 \rightarrow 1$$

$$100 \rightarrow 5$$

$$18) 240 - 60 = 180$$

$$3\text{units} \rightarrow 180$$

$$1\text{unit} \rightarrow 60$$

$$7\text{units} \rightarrow 420$$

$$10\text{units} \rightarrow 600$$

$$4/7 \rightarrow 600$$

$$1/7 \rightarrow 150$$

$$7/7 \rightarrow 1050$$

$$5\text{ parts} \rightarrow 1050$$

$$1\text{ part} \rightarrow 210$$

$$3\text{parts} \rightarrow 630$$