



NANYANG PRIMARY SCHOOL
FIRST SEMESTRAL EXAMINATION
2011

PRIMARY 6
MATHEMATICS
PAPER 1

DURATION: 50 MINUTES

Booklet A	/ 20
Booklet B	/ 20

Paper 1 Total: / 40

Name: _____ ()

Class: Primary 6 ()

Date: _____

Parent's Signature: _____

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

FOLLOW ALL INSTRUCTIONS CAREFULLY.

ANSWER ALL QUESTIONS.

YOU ARE NOT 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 School P has 2063 pupils. School P has 947 fewer pupils than School Q. How many pupils are there in School Q?

(1) 1116

(2) 1126

(3) 3000

(4) 3010

2 Arrange the following fractions from the largest to the smallest.

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

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

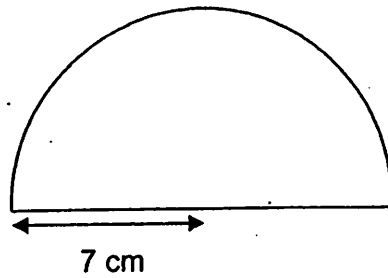
(2) $\frac{2}{3}, \frac{2}{5}, \frac{1}{2}$

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

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

3 Find the perimeter of a semicircle with radius 7 cm.

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



(1) 22 cm

(2) 36 cm

(3) 44 cm

(4) 77 cm

4 How many pairs of parallel lines are there in all of the following letters?

H A F I Z

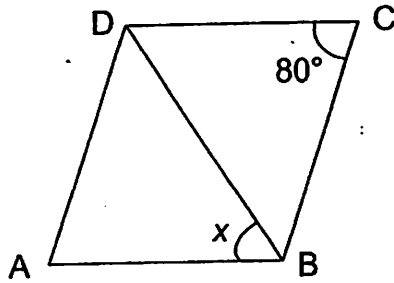
(1) 1

(2) 2

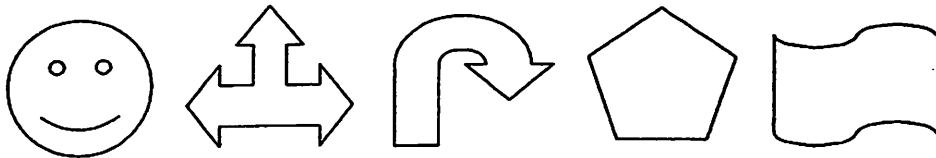
(3) 3

(4) 4

- 5 In the figure below, ABCD is a rhombus. Find $\angle x$.

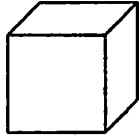


- (1) 45°
(2) 50°
(3) 80°
(4) 100°
- 6 How many figure(s) below has/have no line of symmetry?

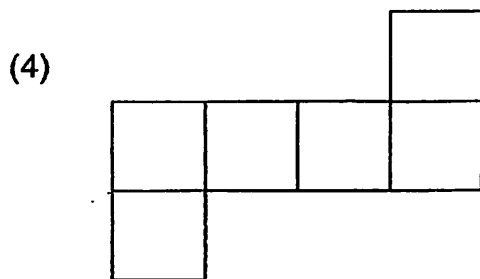
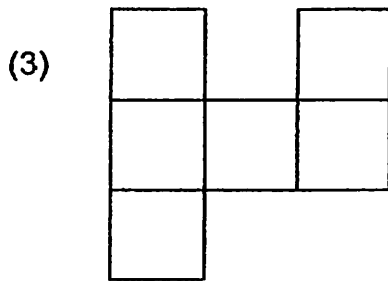
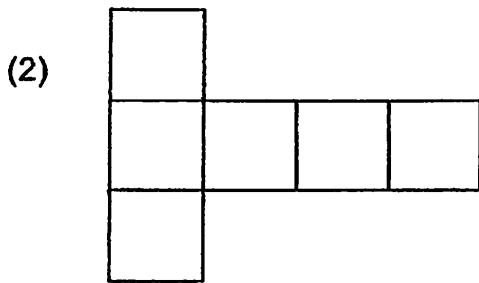
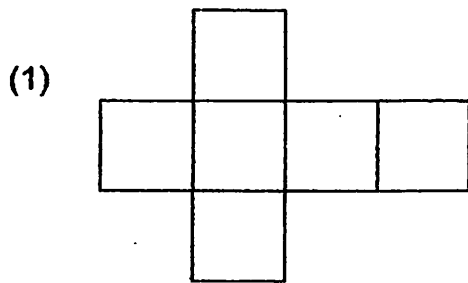


- (1) 1
(2) 2
(3) 3
(4) 4

7 The figure below shows a cube.



Which of the following is not a net of the cube?



- 8 The ratio of the number of men to the number of women to the number of children at AA Fun Day was 2 : 4 : 5. There were 144 adults. How many people were there altogether?
- (1) 120
(2) 264
(3) 396
(4) 792
- 9 A plant was 9 cm tall. After some time, its height increased by 3 cm. What was the percentage increase in the height of the plant?
- (1) 25%
(2) $33\frac{1}{3}\%$
(3) 50%
(4) $66\frac{2}{3}\%$
- 10 A snail took 4 seconds to crawl 2 cm. Crawling at the same speed, the snail took 30 seconds to crawl the length of a plank. What was the length of the plank?
- (1) 15 cm
(2) 24 cm
(3) 32 cm
(4) 60 cm

11 The length of a rectangular metal sheet is $1\frac{1}{5}$ m. Its length is $\frac{1}{2}$ m longer than its breadth. What is the area of the metal sheet?

(1) $\frac{7}{10}$ m²

(2) $\frac{21}{25}$ m²

(3) $2\frac{1}{25}$ m²

(4) $3\frac{4}{5}$ m²

12 A factory produces and packs medicine tablets into bottles. The mass of each tablet is 0.002 kg and the mass of each empty bottle is 0.08 kg. Each bottle contains 200 tablets. What is the total mass of 10 such bottles of medicine tablets?

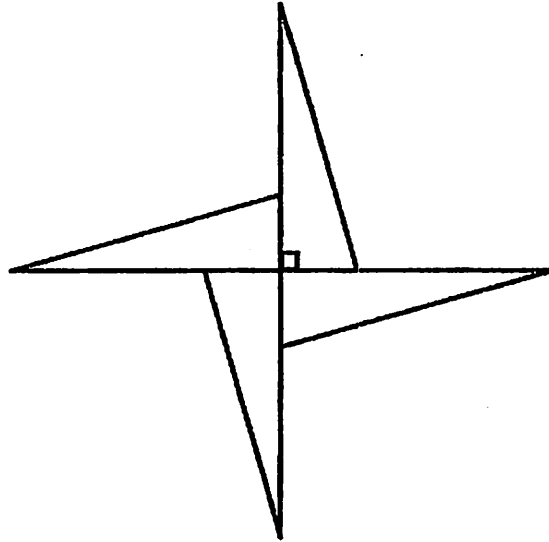
(1) 0.48 kg

(2) 0.82 kg

(3) 1.20 kg

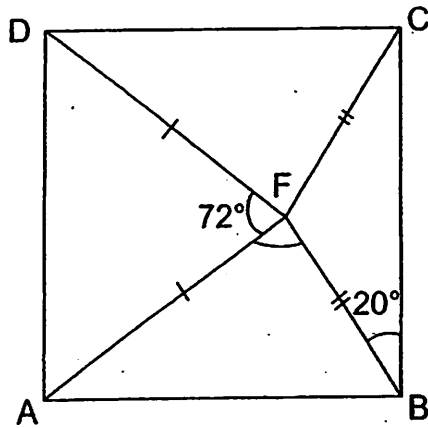
(4) 4.80 kg

- 13 The figure below is made up of 4 identical right-angled triangles. The perimeter of each triangle is 60 cm. The shortest side of each triangle is 10 cm. Find the perimeter of the figure.



- (1) 120 cm
- (2) 160 cm
- (3) 200 cm
- (4) 240 cm

- 14 In the figure below, ABCD is a square. AFD and BCF are isosceles triangles. Find $\angle AFB$.



- (1) 65°
- (2) 74°
- (3) 106°
- (4) 108°
- 15 A bus travelled from Point A to Point C while a car travelled from Point A to Point B. The distance between Point A to Point C was twice the distance between Point A to Point B. The car travelled twice as fast as the bus. The car took 2 hours to complete its journey. How long did the bus take to complete its journey?
- (1) 1 h
- (2) 2 h
- (3) 8 h
- (4) 4 h

Name: _____ () Class: Pr 6 ()

P6 SA1 2011

PAPER 1 (BOOKLETB)

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 On a Christmas tree, the red lights flash every 40 seconds while the green lights flash every 60 seconds. If both lights flash together at 10 p.m., when is the very next time that they will flash together again?

Ans: _____ p.m.

-
- 17 Find the value of $22 + 8 \times 8 - (1 + 7 \times 7 - 6 \div 2) + 1$.

Ans: _____

-
- 18 Express $5\frac{6}{7}$ as a decimal.

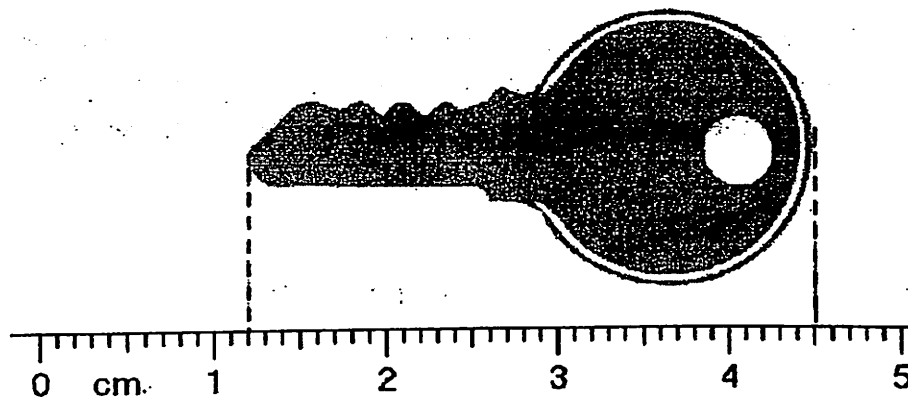
Give your answer correct to 2 decimal places.

Ans: _____

- 19 The number of spectators in a stadium is 2000 when rounded off to the nearest hundred. What is the maximum number of spectators at the stadium?

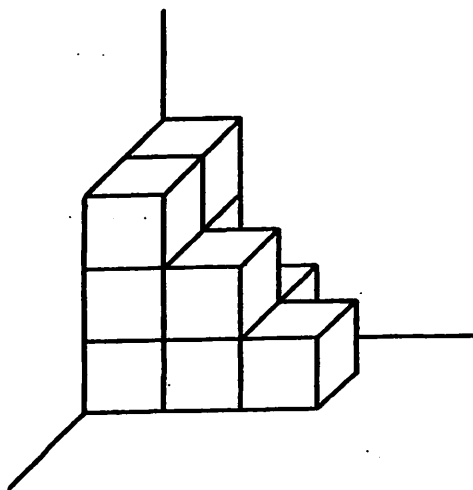
Ans: _____

- 20 A key is placed next to a scale as shown in the figure below. What is the length of the key in metres?



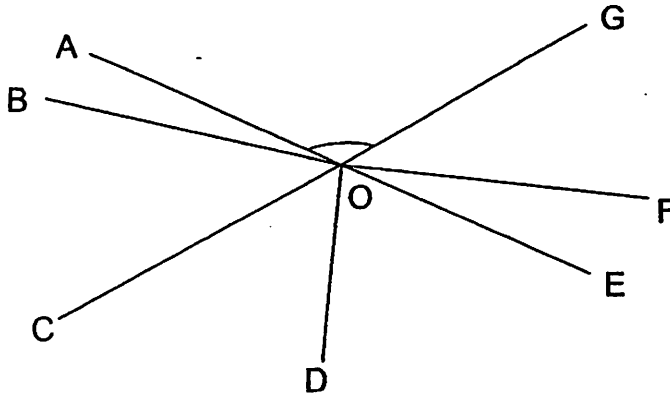
Ans: _____ m

- 21 The figure below shows a solid leaning against two walls. The solid is made up of identical 2-cm cubes. Find the volume of the solid.



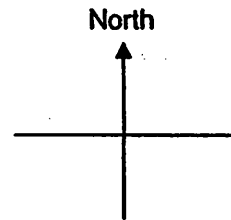
Ans: _____ cm^3

- 22 In the figure below, AE and CG are straight lines. Name the angle in the figure which is equal to $\angle AOG$.



Ans: _____

- 23 Peter is facing South. Which direction will he be facing if he turns 135° clockwise?



Ans: _____

- 24 What is the missing number in the box?

$$28 : 7 = 16 : \boxed{?}$$

Ans: _____

- 25 Samy paid \$21 for a cake after a discount of 30%. What was the discount given to her?

Ans: \$ _____

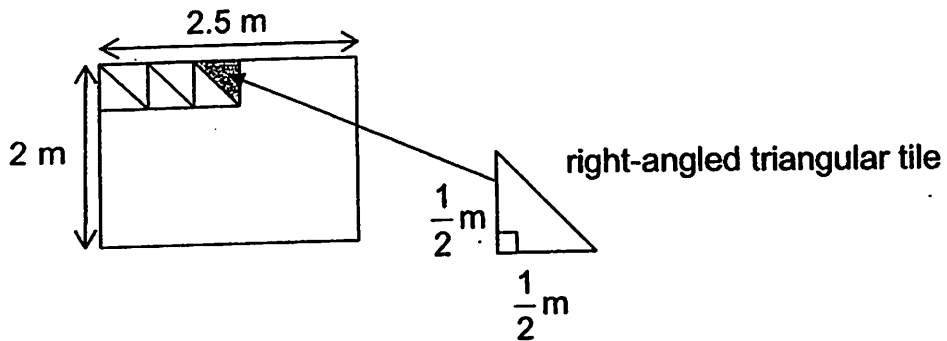
Questions 26 to 30 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

(10 marks)

- 26 Mr Tan's monthly salary is \$28w. Every month, he gives half of it to his wife and spends $\frac{1}{4}$ of the remainder on transport. How much does he spend on transport monthly? Express your answer in terms of w.

Ans: \$ _____

- 27 Mrs Lee completely covered a rectangular floor, 2.5 m by 2 m, with identical right-angled triangular tiles by using the tiling pattern shown below. How many such tiles did she use altogether?



Ans: _____

- 28 A wheel has a diameter of 14 cm. How many revolutions must it make to travel a distance of 88 m? (Take $\pi = \frac{22}{7}$)

Ans: _____

- 29 Peter has a box that can hold either 48 big buns or 60 small buns. There are already 12 big buns and 10 small buns in the box. What is the maximum number of big buns the box can still hold?

Ans: _____

- 30 Study the patterns in the number sequence below. What is the missing number in Row 1014?

Row 1	11
Row 2	16
Row 3	27
Row 4	32
Row 5	43
Row 6	48
.	.
.	.
.	.
Row 1014	?

Ans: _____

END OF PAPER 1



NANYANG PRIMARY SCHOOL
FIRST SEMESTRAL EXAMINATION
2011

PRIMARY 6
MATHEMATICS
PAPER 2

DURATION: 1 HOUR 40 MINUTES

Paper 2 Total	/ 60
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GRAND TOTAL	/ 100
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Name: _____ ()

Class: Primary 6 ()

Date: _____

Parent's Signature: _____

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PAPER 2

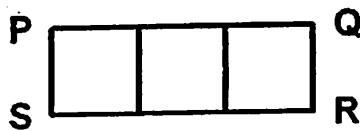
Questions 1 to 5 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

(10 marks)

- 1 Macy and Kathdu were given equal amount of pocket money each day. Macy and Kathdu started saving on the same day. After saving for a certain number of days, Macy and Kathdu had \$11.20 and \$12.80 in their savings respectively. Macy spent \$0.20 more than Kathdu every day. How many days had they been saving?

Ans: _____

- 2 The figure below shows rectangle PQRS which is made up of 3 identical squares. The area of each square is 324 cm^2 . Find the perimeter of rectangle PQRS.



Ans: _____ cm

- 3** Eleven children were given funfair tickets to sell. Each child sold $12y$ tickets. Each ticket cost \$5. If $y = 4$, what was the total amount of money collected from the sale of the funfair tickets?

Ans: \$ _____

- 4** There were some raspberries and strawberries at Ms Umi's fruit stall. There were 1.5 times as many strawberries as raspberries at the stall. What was the ratio of the number of raspberries to the number of strawberries to the total number of berries?

Ans: _____

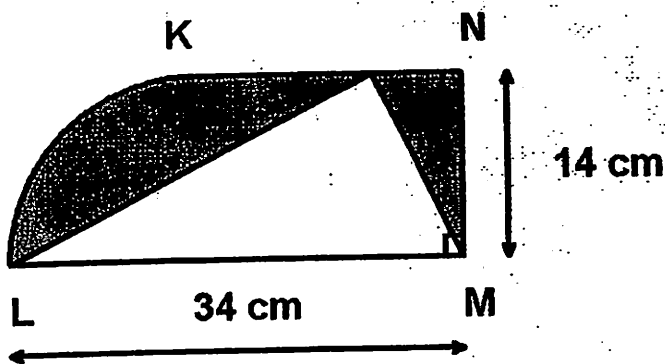
- 5** Mr Woo travelled from Town Q to Town R. After travelling for 1 hour at an average speed of 80 km/h, he decreased his speed by 20 km/h to travel the remaining journey for 3 hours. Find his average speed for the whole journey.

Ans: _____ km/h

For questions 6 to 18, show your working clearly in the space provided for 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.

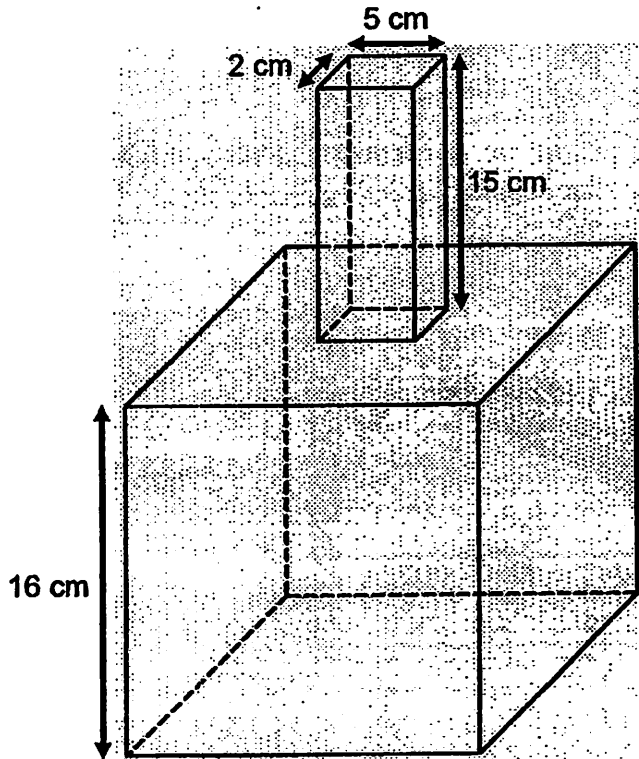
(50 marks)

- 6 In the figure below, KL is the arc of a quarter circle. Use the calculator value of π to find the total area of the shaded parts. Correct your answer to 1 decimal place.



Ans: _____ [3]

- 7 The figure below shows an empty flower vase of height 31 cm. It is made from two containers. The top container is in the form of a cuboid which measures 5 cm by 2 cm by 15 cm. The bottom container is in the form of a cube of edge 16 cm.



4.2 litres of water are poured into the empty vase.
Find the height of the water level from the base of the vase.
(1 litre = 1000 cm³)

Ans: _____ [3]

- 8 In a school hall, 40% of the pupils were girls. When 27 more girls entered the hall, the number of girls in the hall became 75% of the boys. How many pupils were there in the hall at the end?

Ans: _____ [3]

- 9 The length of a rectangle is increased by 25% and its breadth is increased by 30%. What is the percentage increase in its area?

Ans: _____ [3]

- 10 Sunshine City and Moon Town were 361 km apart. At 06 00, Azman started travelling from Sunshine City to Moon Town at a constant speed of 80 km/h. 45 minutes later, Baoming left Moon Town and travelled towards Sunshine City at a constant speed of 60 km/h. At what time did Azman and Baoming pass each other?

Ans: _____ [3]

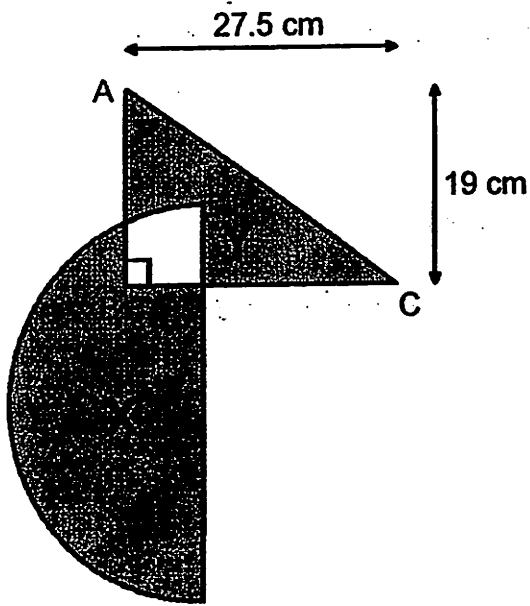
11 Miss Li sold watches and bracelets. Each watch was sold at \$42. Each bracelet was sold at $\frac{2}{3}$ of the price of each watch. Miss Li sold $\frac{1}{3}$ of the items and collected \$3360. $\frac{2}{5}$ of the items sold were watches.

- (a) How many bracelets were sold?
- (b) What was the total number of items left unsold?

Ans: (a) _____ [3]

(b) _____ [1]

- 12 The figure below shows a semicircle and a right-angled triangle ABC. The lengths of AB and BC are 19 cm and 27.5 cm respectively. The area of the shaded region X is 92 cm^2 more than the area of the shaded region Y. Find the diameter of the semicircle. (Take $\pi = 3.14$)

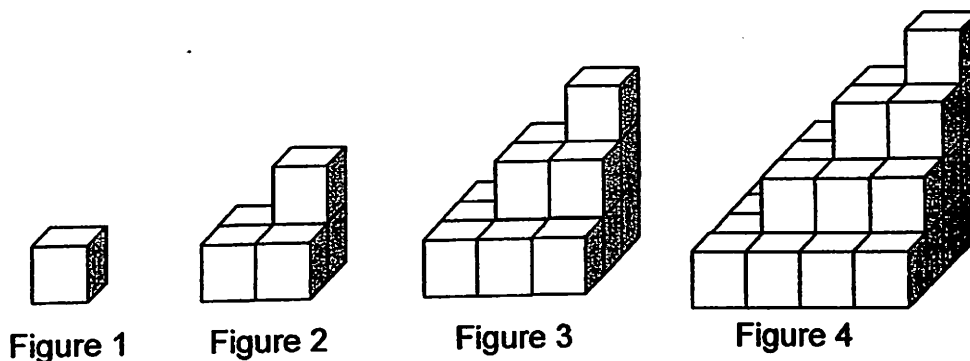


Ans: _____ [4]

- 13** At Station A, the ratio of the number of children to the number of adults on a train was 4 : 5. At the next station, 12 children alighted and 10 adults boarded the train. The ratio of the number of children to the number of adults on the train then became 7 : 10. How many children were on the train at first?

Ans: _____ [4]

- 14 The sequence of figures below is made up of 2-cm cubes.
Study the patterns carefully and answer questions (a), (b) and (c).



- (a) How many 2-cm cubes are there in Figure 5?
Write your answer in the table below.

Figure	No. of 2-cm cubes	No. of layers of cubes
1	1	1
2	5	2
3	14	3
4	30	4
5	_____	5

[1]

- (b) What is the total volume of the cubes in Figure 3?
- (c) Given that a figure has 285 cubes, how many layers of cubes will there be?

Ans: (b) _____ [1]

(c) _____ [2]

- 15 Mr Yama went shopping and bought 8 shirts from the first shop. Then, he bought 3 more identical shirts at \$42.50 each from the second shop. The average cost of all his shirts was decreased by \$1.50. What was the total cost of the 11 shirts?

Ans: _____ [4]

16 There were a total of 4540 passengers onboard 4 ships, labelled A, B, C and D. All the ships were travelling on different sea routes. Ship A had the most number of passengers onboard and Ship D had the least. The difference in the number of passengers onboard Ship A and the other three ships was 139, 363 and 618.

(a) How many passengers were onboard Ship D?

(b) Each ship was required to load sufficient lifeboats to carry all its passengers onboard in case of emergency. Each lifeboat could take up to 30 passengers. Find the total minimum number of lifeboats to be loaded on Ship A and Ship D.

Ans: (a) _____ [3]

(b) _____ [2]

17 Sandra had 360 pears and apples at her store. After selling 30% of the apples and 40% of the pears, she had 230 fruits left.

(a) How many pears did she sell?

(b) How many apples did she have at first?

Ans: (a) _____ [3]

(b) _____ [2]

18 A bus, which left Terminal Y, was scheduled to reach Terminal Z at a certain time. After travelling for an hour at its usual speed, the bus stopped for 30 minutes due to an engine problem. In order to reach Terminal Z at the scheduled time, the bus travelled the remaining journey at a speed which was 6 km/h faster than the usual speed. The bus took 4 hours to cover the remaining journey.

(a) Find the usual speed of the bus.

(b) Find the distance between the two terminals.

Ans: (a) _____ [3]

(b) _____ [2]

END OF PAPER 2

ANSWER SHEET

EXAM PAPER 2011

SCHOOL : NANYANG PRIMARY
SUBJECT : PRIMARY 6 MATHEMATICS

TERM : SA1

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

- 16)10.02p.m. 17)40 18)5.86 19)2049 20)0.033m
- 21)80cm² 22)∠COE 23)North West 24)4 25)\$9
- 26)\$3.5w 27)40 28)200 29)28 30)8112

Paper 2

<p>1)\$12.80 – \$11.20 = \$1.60 \$1.60 ÷ \$0.20 = 8</p>	<p>2)144cm</p>
<p>3)12y x 11 = 132y 132 x 4 = 528 528 x \$5 = \$2640</p>	<p>4)2:3:5</p>
<p>5)80 x 1 = 80 80 – 20 = 60 60 x 3 = 180 180 + 80 = 260 260 ÷ 4 = 65km/h</p>	<p>6)34 – 14 = 20 20 x 14 = 280 ½ x 34 x 14 = 238 (49π + 280) – 238 ≈ 195.9cm²</p>
<p>7)4.2L = 4200ml 16 x 16 x 16 = 4096 4200 – 4096 = 104 104 ÷ 5 ÷ 2 = 10.4 10.4 + 16 = 26.4cm</p>	<p>8)Boys → 60% at first → 25% in the end B : G 3 : 2 = 12:8 4 : 3 = 12:9 27 x 21 = 567</p>
<p>9)New L → 1 + 4/4 = 5/4 New B → 10 + 3/10 = 13/10 5/4 x 13/10 = 13/8 = 162.5% 162.5% - 100% = 62.5%</p>	<p>10)80 x ¾ = 60 80 + 60 = 140 361 – 60 = 301 301 ÷ 140 = 2³/₂₀ 2³/₂₀ + ¾ = 29/10 0600-----→ 08 54 29/10h</p>

<p>11) $\\$42 \div 3 \times 2 = \\28 $\frac{1}{3} \times \frac{2}{5} = \frac{2}{15}$ $\frac{1}{3} \times \frac{3}{5} = \frac{1}{5} = \frac{3}{15}$ $\\$28 \times 3 = \\84 $\\$42 \times 2 = \\84 $\\$84 + \\$84 = \\$168$ $\\$3360 \div \\$168 = 20$ $20 \times 3 = 60$ $20 \times 5 = 100$ $100 \times 2 = 200$ a)60 b)200</p>	<p>12) $27.5 \times 19 \div 2 = 261.25$ $261.25 + 92 = 353.25$ $353.25 \times 2 = 706.5$ $706.5 \div 3.14 = 225$ $\sqrt{225} = 15$ $15 \times 2 = 30\text{cm}$</p>
<p>13)152</p>	<p>14)a)55 b)$2 \times 2 \times 2 = 8$ $8 \times 14 = 112\text{cm}^3$ c)9</p>
<p>15) $\\$42.50 \times 3 = \\127.50 $\\$1.50 \times 11 = \\16.50 $\\$127.50 + \\$16.50 = \\$144$ $\\$144 \div 3 = \\48 $\\$48 \times 8 = \\384 $\\$384 + \\$127.50 = \\$511.50$</p>	<p>16) $4540 + 139 + 363 + 618 = 5660$ $5660 \div 4 = 1415$ $1415 - 618 = 797$ $1415 \div 30 = 47 \text{ R}5 \approx 48$ $797 \div 30 = 26 \text{ R}17 \approx 27$ $27 + 48 = 75$ a)797 b)75</p>
<p>17) $10A + 10P \rightarrow 360$ (x7) $7A + 6P \rightarrow 230$ (x10) $70A + 70P \rightarrow 2520$ $70A + 60P \rightarrow 2300$ $10P \rightarrow 220$ $1P \rightarrow 22$ $4P \rightarrow 88$ $10A \rightarrow 360 - 220 = 140$ a)88 b)140</p>	<p>18) $\frac{1}{2} + 1 + 4 = 5\frac{1}{2}$ $4 \times 6 = 24$ $24 \div \frac{1}{2} = 48$ $48 \times 5\frac{1}{2} = 264$ a)48km/h b)264km</p>