

Primary 6 Mathematics
2016 Semestral Assessment One
Paper 1
Booklet A
10 May 2016

Total Time for Booklets A and B : 50 minutes.

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)

-
1. Last year, there were 320 989 visitors to a tourist attraction. Express this number to the nearest hundred.

(1) 320 000

(2) 320 900

(3) 321 000

(4) 321 900

2. What is the value of $86 + 40 \div 2 \times (12 - 8)$?

(1) 91

(2) 166

(3) 252

(4) 748

3. Find the value of $\frac{4}{5} \div 6$.

(1) $\frac{5}{24}$

(2) $\frac{2}{15}$

(3) $4\frac{4}{5}$

(4) $7\frac{1}{2}$

4. Guan Yong bought $8\frac{1}{2}$ kg of rice. He used $2\frac{2}{3}$ kg of the rice. How much rice was left?

(1) $11\frac{1}{6}$ kg

(2) $6\frac{5}{6}$ kg

(3) $6\frac{1}{6}$ kg

(4) $5\frac{5}{6}$ kg

5. What is the value of $60 \div 1200$?

(1) 0.2

(2) 0.5

(3) 0.02

(4) 0.05

6. Which of the following is the same as 3.09 l?

(1) 3900 ml

(2) 3090 ml

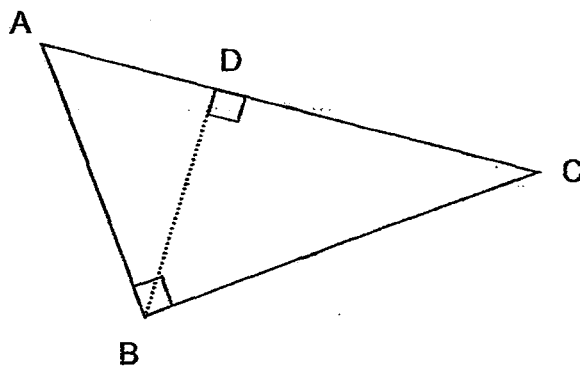
(3) 3009 ml

(4) 3000 ml

7. There were 35 books on the shelf. Mrs Tan took away 28 books. What percentage of the books on the shelf did Mrs Tan take away?

- (1) 7%
- (2) 20%
- (3) 60%
- (4) 80%

8. Which of the following cannot be the height of the Triangle ABC shown below?

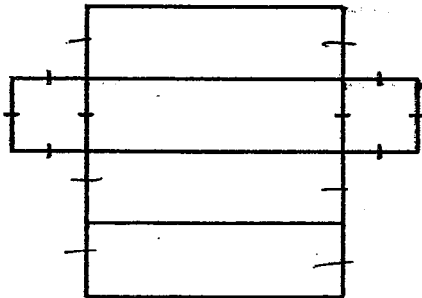


- (1) AB
- (2) BC
- (3) BD
- (4) CD

9. Find the value of $\frac{3x-9}{3} + 6$ when $x = 6$.

- (1) 5
- (2) 9
- (3) 11
- (4) 15

10. What is the name of the solid that can be formed by the following net?

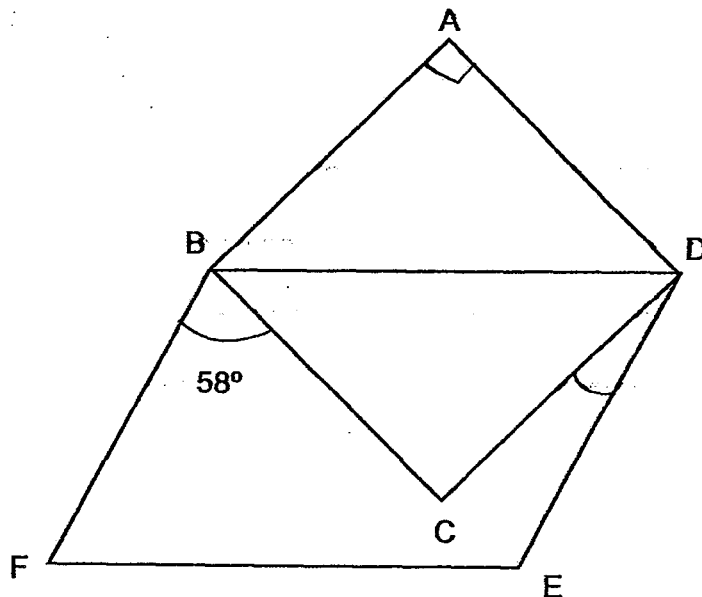


- (1) Cube
- (2) Cuboid
- (3) Cylinder
- (4) Pyramid

11. The ratio of the number of Raja's marbles to the number of Peter's marbles is 3 : 4. They have a total of 84 marbles. Raja gave 24 marbles to Peter. What is the new ratio of the number of Raja's marbles to the number of Peter's marbles?

- (1) 1 : 6
- (2) 1 : 5
- (3) 1 : 4
- (4) 1 : 2

12. The figure below, not drawn to scale, shows a square ABCD and a parallelogram BDEF. Find $\angle CDE$.



- (1) 16°
- (2) 32°
- (3) 45°
- (4) 77°

13. Panny had a piece of ribbon 25 m long. After cutting the ribbon into smaller pieces of $\frac{4}{5}$ m each, she had some ribbon left. How much ribbon did Panny have left?

(1) 1m

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

(3) $\frac{1}{5}$ m

(4) $\frac{5}{16}$ m

14. Vina has 180 stickers. She gave 30% of them to Jasmine and $\frac{2}{3}$ of the remainder to Alan. How many stickers did Alan get?

(1) 42

(2) 54

(3) 84

(4) 126

15. Last week, Mrs Devi bought some meat at \$3.00 per kg at the market. This week, she bought 2 kg of the same type of meat but its price had decreased by 10%. How much did she pay for the meat this week?

- (1) \$2.70
- (2) \$3.30
- (3) \$5.40
- (4) \$6.60

Primary 6 Mathematics
2016 Semestral Assessment One
Paper 1
Booklet B
10 May 2016

TOTAL TIME FOR BOOKLET A & B : 50 MINUTES

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)

Do not write
in this space.

16. Find the value of 147×80 .

Ans : _____

17. Express $3\frac{1}{9}$ as a decimal correct to 2 decimal places.

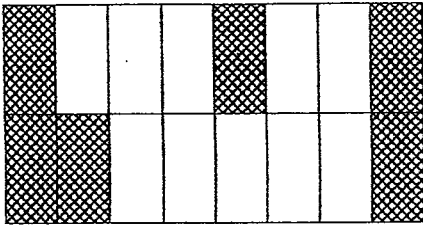
Ans : _____

18. Find the value of $22 - 0.55$.

Ans : _____



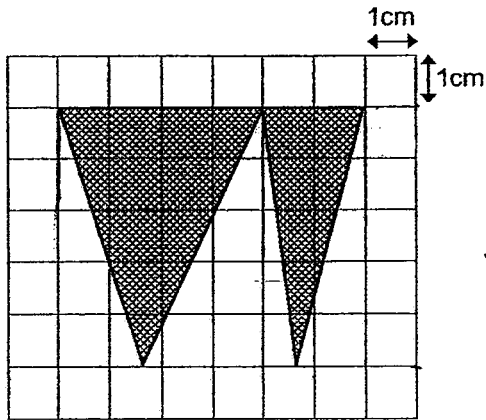
19. What percentage of the figure is shaded?



write in this space.

Ans : _____ %

20. What is the total area of the shaded triangles?



Ans : _____ cm²

21. $\square : 15 = 51 : 45$

What is the missing number in the box?

Ans : _____



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write in this
space.

22. Simplify $9y + 7 - 3y + 2 - 5y$.

Ans : _____

23. Patricia, Queenie and Ryan shared 35 sweets. Patricia received 2 times the number of sweets Queenie received. Ryan received half the number of sweets Queenie received. How many sweets did Patricia receive?

Ans : _____

24. A is 4 times of B. C is $\frac{5}{2}$ of B. How many times of C is A?

Ans : _____

25. The ratio of the length of a rectangle to its breadth 3 : 1. The perimeter of the rectangle is 48 cm. Find the length of the rectangle.

Ans : _____



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

Do not write
in this space.

26. A machine can pack 4300 sweets in 5 minutes. At this rate, how many sweets can it pack in 1 hour? Round off your answer to the nearest thousand.

Ans : _____

27. Alison baked a cake and gave half of it to her mother. She ate $\frac{1}{4}$ of the remaining cake. Then she cut the rest of the cake into 2 equal pieces to give to her two daughters. What fraction of the cake did each daughter receive?

Ans : _____



28. The average height of 3 boys is 150 cm. One of the boys is 160 cm tall. What is the average height of the other 2 boys?

Do not write
in this space.

Ans : _____ cm

29. Yati had a packet of sugar. She used an equal amount of sugar each day. At the end of the 10th day, $\frac{1}{4}$ of the sugar was left. At the end of the 12th day, the amount of sugar left was 120 g. How much sugar did Yati use each day?

Ans : _____



30. Siew Mei was given a fixed amount of pocket money each week. In the first week, she spent \$30 and saved the rest. In the 2nd week, she spent 10% more and her savings decreased by 25%. How much did Siew Mei save in the 2nd week?

Do not write
in this space

Ans : \$ _____



Primary 6 Mathematics
2016 Semestral Assessment One
Paper 2
10 May 2016

TIME: 1 hour 40 minutes

Questions 1 to 5 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

Do not write in this space.

1. Using each digit below only once, form

(a) the smallest multiple of 6.

(b) the number closest to 7000.

5	6	7	0
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Ans : (a) _____

(b) _____

2. $\frac{1}{5}$ of the balls in a basket are yellow and the rest are red and blue. The number of red balls is $\frac{3}{5}$ the number of blue balls. What is the ratio of the number of yellow balls to the number of red balls to the number of blue balls?

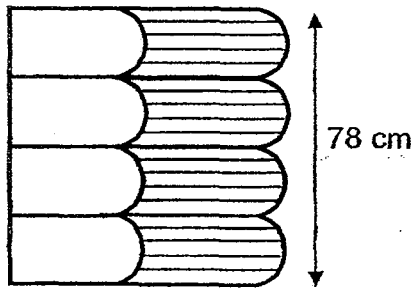
Ans : _____

3. Maria was told to use only 2 different colours to colour the design of a class T-shirt. She was given 4 colours, red, blue, green and yellow to choose from. How many different two-colour combinations could she use in her design?

Do not write
in this space.

Ans : _____

4. Four identical dictionaries were stacked on top of another as shown below to form a height of 78 cm. What is the height of 234 such dictionaries stacked in the same way?



Ans : _____ m

5. From January to March last year, the average number of customers dining at a restaurant was 3144 per month. The number of customers in January was 26 more than the number of customers in February. The total number of customers in January and February was the same as the number of customers in March. How many customers were there in February?

Do not write
in this space.

Ans : _____



For questions 6 to 18, show your working clearly 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)

Do not write
in this space.

6. The signs below show the parking charges at a public car park.

Day and Night Parking

50¢
½ hourly 7.00 a.m. to 10.30 p.m.
Everyday
(Including Sundays & Public Holidays)

Overnight Parking

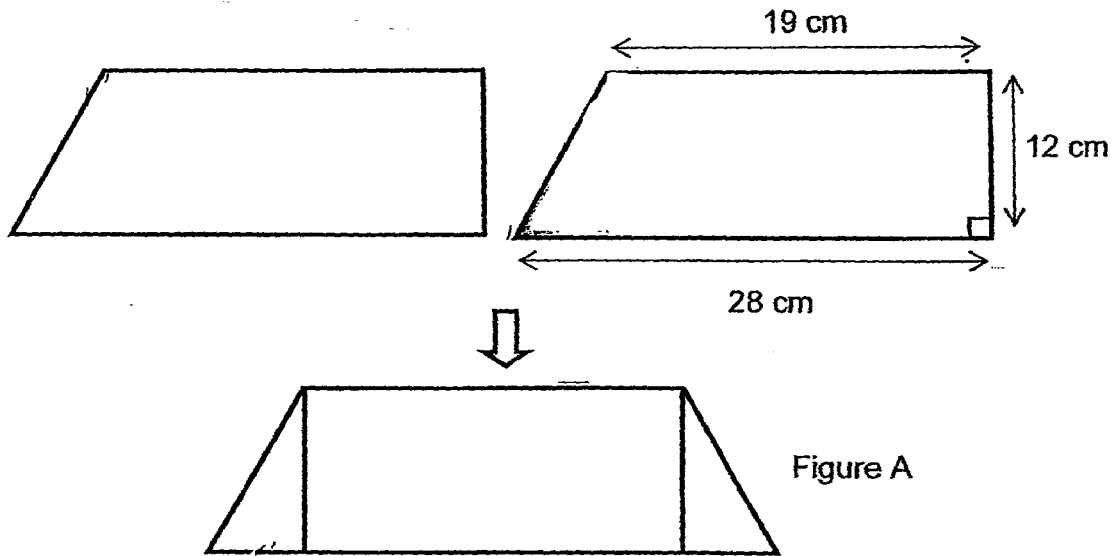
\$4.00
per night 10.30 p.m. to 7.00 a.m.
Everyday
(Including Sundays & Public Holidays)

Mr Nathan parked his car along this road from 3.00 p.m. on Saturday till 10.00 a.m. the following day. How much did he pay for the parking?

Ans : _____

7. Figure A below, not drawn to scale, is made up of two identical trapeziums overlapping each other as shown. Find the area of the Figure A.

Do not write in this space.



8. Gerald paid \$123.05 for a kettle after the 7% GST. A week later, there was a 15% discount on the usual price of the same kettle. How much was the discount?

Do not write
in this space.

Ans : _____ [3]

9. Jia Hui had $(13w + 2)$ stickers. Amanda had $4w$ fewer stickers than Jia Hui. Kathy had $(10w + 3)$ more stickers than Amanda. Express the total number of stickers the three girls had in terms of w in the simplest form.

Ans : _____ [3]



10. Three family members shared the cost of buying a flat equally. Adam used $\frac{1}{2}$ of his savings, Bill used $\frac{6}{7}$ of his savings and Carl used $\frac{3}{4}$ of his savings. Bill and Carl had \$44 820 left after paying for the flat. How much did the flat cost?

Do not write
in this space.

Ans : _____ [3]

11. Primary 6A and Primary 6B have a total of 87 children. There are an equal number of girls in both classes. The ratio of the number of girls to the number of boys in Primary 6A is $5 : 2$. The ratio of the number of girls to the number of boys in Primary 6B is $2 : 1$.

Do not write
in this space.

- (a) How many girls are there in Primary 6A?
- (b) How many more girls than boys are there in all?

Ans : (a) _____ [2]

(b) _____ [2]



12. Janet made some paper flowers to sell. $\frac{1}{4}$ of them were roses and the rest were lilies. After selling $\frac{2}{3}$ of the roses and 190 lilies, she had $\frac{1}{6}$ of the paper flowers left. How many paper flowers did Janet make?

Do not write
in this space.

Ans : _____ [4]

13. Mr Lim earned a monthly salary of \$4200, which was 20% more than the monthly salary of Mr Tang. When Mr Lim's monthly salary was increased, he earned \$910 more than Mr Tang. What was the percentage increase in Mr Lim's salary?

Do not write
in this space.

Ans : _____ [4]



14. Carol spent $\frac{1}{4}$ of her salary on accommodation and $\frac{1}{8}$ of it on a bag. Of the rest of the money, she gave $\frac{1}{4}$ of it to her parents and spent \$450 on transport. Then she saved the remaining \$1350.

Do not write
in this space.

- (a) What fraction of Carol's salary did she give to her parents?
- (b) What was her salary?

Ans : (a) _____ [1]

(b) _____ [3]

15. Hillary was cutting out some paper hearts to be sold for charity. Three paper hearts could be cut from every piece of coloured paper. For every 19 pieces of coloured paper used, 2 paper hearts were damaged. She sold all the pieces of undamaged paper hearts at 50¢ each. She collected a total of \$385.

- (a) How many paper hearts were sold?
(b) How many pieces of coloured paper did Hillary use?

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in this space.

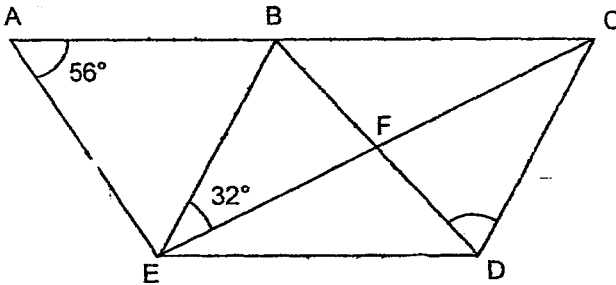
Ans : (a) _____ [1]

(b) _____ [3]

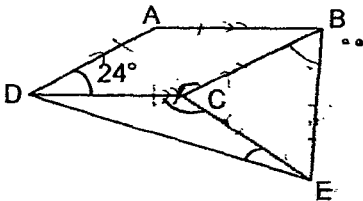


16. (a) In the figure below, not drawn to scale, ABDE is a rhombus and EBCD is a parallelogram. EFC is a straight line. $\angle EAB = 56^\circ$ and $\angle BEC = 32^\circ$. Find $\angle FDC$.

Do not write in this space.



- (b) In the figure below, not drawn to scale, ABCD is a rhombus and BCE is an equilateral triangle. Find $\angle CED$.



Ans : (a) _____ [2]

(b) _____ [3]

17. A container contained 40% more water than a pail at first. Jamie poured 20% of the water from the container to the pail. Then she used up 25% of the water from the pail. In the end, there was 900 ml more water in the container than the pail. How much water was there in the container at first?

Do not write
in this space.

Ans :

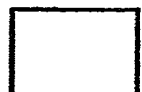
18. During a camp, Mrs Han ordered an equal number of cakes and buns for breakfast from a bakery. The cost of a cake was \$1.20 and it was 3 times the cost of a bun. $\frac{3}{5}$ of the cakes and $\frac{2}{5}$ of the buns were eaten and that cost \$264.

Do not write
in this space.

- (a) How many cakes were eaten?
(b) How much did Mrs Han paid for all the cakes and buns?

Ans : (a) _____ [3]

(b) _____ [2]



End of Paper

ANSWER KEY

YEAR : 2016
 LEVEL : PRIMARY 6
 SCHOOL : CHIJ ST NICHOLAS GIRLS'
 SUBJECT : MATHEMATICS
 TERM : SA1

Paper 1

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

Q16 11760

Q17 $3\frac{1}{9} = \frac{28}{9} \approx 3.111 \approx \underline{3.11}$

Q18 21.45

Q19 Total units $\rightarrow 16$
 Shaded $\rightarrow 6$
 $\frac{6}{16} \times 100 \rightarrow \frac{75}{2} \Rightarrow \underline{37.5\%}$

Q20 $6 \times 5 \times \frac{1}{2} \Rightarrow \underline{15 \text{ cm}^2}$

Q21 17

Q22 $9y + 7 - 3y + 2 - 5y \rightarrow 9y - 3y - 5y + 7 + 2 \Rightarrow \underline{(y + 9)}$

Q23 P : Q : R
 4 : 2 : 1
 $4u + 2u + 1u \rightarrow 7u$
 $35 \times \frac{4}{7} \Rightarrow \underline{20 \text{ sweets}}$

Q24 A : B : C
 8 : 2 : 5
 $4 \times 2 \rightarrow 8$
 $\frac{8}{5} \Rightarrow \underline{1\frac{3}{5}}$

Q25 L : B
 3 : 1
 $3u + 1u \rightarrow 4u$
 $4u \times 2 \rightarrow 8u$
 $48 \times \frac{3}{8} \Rightarrow \underline{18 \text{ cm}}$

- Q26 $1\text{h} = 60\text{min}$
 $4300 \times \frac{60}{5} = 51600 \approx \underline{52000}$
- Q27 $\frac{1}{2} \times \frac{3}{4} \times \frac{1}{2} \Rightarrow \frac{3}{16}$
- Q28 $150 \times 3 = 450$
 $450 - 160 = 290$
 $290 \div 2 \rightarrow \frac{290}{2} \rightarrow \frac{145}{1} \Rightarrow \underline{145\text{ cm}}$
- Q29 $4\text{ days} \rightarrow 120 \times 3 = 360$
 $1\text{ day} \rightarrow 360 \div 4 \Rightarrow \underline{90\text{ g}}$
- Q30 $30 \times \frac{110}{100} = 33$
 $33 - 30 = 3$
 $100 - 25 = 75$
 $25\% \rightarrow 3$
 $75\% \rightarrow 3 \times 3 \Rightarrow \underline{\$9}$

Paper 2

- Q1a 5076
- Q1b 7056
- Q2 $Y : R : B$
 $\underline{2 : 3 : 5}$
- Q3 6
- Q4 $4u \rightarrow 78$
 $1u \rightarrow 78 \div 4 = 19.5$
 $234u \rightarrow 19.5 \times 234 = 4563$
 $4563\text{ cm} \Rightarrow \underline{45.63\text{ m}}$
- Q5 $3144 \times 3 = 9432$
 $4u \rightarrow 9432 - 26 - 26 = 9380$
 $1u \rightarrow 9380 \div 4 \Rightarrow \underline{2345\text{ customers}}$
- Q6 $1\text{h} \rightarrow 50\text{¢} \times 2 = \1
 $7\text{h} \rightarrow \$1 \times 7 = \7
 $\$7 + \$0.50 = \$7.50$
 $\$7.50 + \$4 = \$11.50$
 $3\text{h} \rightarrow 41 \times 3 = \3
 $\$11.50 + \$3 \Rightarrow \underline{\$14.50}$
- Q7 $28 \times 12 \Rightarrow \underline{336\text{ cm}^2}$

Q8 $100 + 7 = 107$

$$123.05 \times \frac{100}{107} = 115$$

$$115 \times \frac{15}{100} \Rightarrow \underline{\$17.25}$$

Q9 Jia Hui $\rightarrow 13w + 2$

$$\text{Amanda} \rightarrow 13w + 2 - 4w = 13w - 4w + 2 \rightarrow 9w + 2$$

$$\text{Kathy} \rightarrow 9w + 2 + 10w + 3 = 9w + 10w + 2 + 3 \rightarrow 19w + 5$$

$$\text{Total} \rightarrow 13w + 2 + 9w + 2 + 19w + 5 = 13w + 9w + 19w + 2 + 2 + 5 \Rightarrow \underline{(41w + 9)}$$

Q10 $3u \rightarrow 44820$

$$6u \rightarrow 44820 \times 2 = 89640$$

$$89640 \times 3 \Rightarrow \underline{\$268920}$$

Q11a 6A 6B

$$5 : 2 \qquad 2 : 1$$

$$10 : 4 \qquad 10 : 5$$

$$6AB : 1G : 6BB$$

$$4 : 10 : 5$$

$$4u + 10u + 10u + 5u = 29$$

$$87 \times \frac{10}{29} \Rightarrow \underline{30 \text{ girls}}$$

Q11b $10u + 10u = 20$

$$4u + 5u = 9u$$

$$20u - 9u = 11u$$

$$87 \times \frac{11}{29} \Rightarrow \underline{33 \text{ more girls}}$$

Q12 $\frac{1}{4} \times \frac{2}{3} = \frac{1}{6}$ (roses sold)

$$1 - \frac{1}{6} - \frac{1}{6} \rightarrow \frac{4}{6} \rightarrow \frac{2}{3}$$

$$4u \rightarrow 190$$

$$1u \rightarrow 190 \div 4 = 47\frac{1}{2}$$

$$6u \rightarrow 47\frac{1}{2} \times 6 \Rightarrow \underline{285 \text{ paper flowers}}$$

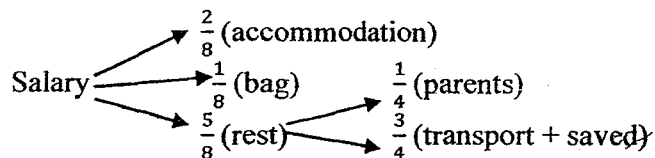
Q13 Mr Tang $\rightarrow 4200 \times \frac{100}{120} = 3500$

$$\text{Mr Lim} \rightarrow 3500 + 910 = 4410$$

$$4410 - 4200 = 210$$

$$\frac{210}{4200} \times 100 \Rightarrow \underline{5\%}$$

Q14a



$$\frac{1}{4} \times \frac{5}{8} \Rightarrow \frac{5}{32}$$

Q14b $1350 + 450 \rightarrow 1800$

$$1800 \times \frac{4}{3} \rightarrow 2400$$

$$2400 \times \frac{8}{5} \Rightarrow \underline{\$3840}$$

Q15a $385 \div 0.50 \Rightarrow \underline{770 \text{ paper hearts sold}}$

Q15b $19 \times 3 = 57$

$$57 - 2 = 55$$

$$770 \div 55 = 14$$

$$14 \times 19 \Rightarrow \underline{266 \text{ pieces}}$$

Q16a $\angle EAB = \angle BDE = 56^\circ$

$$\angle FBC = \angle EAB = 56^\circ$$

$$\angle EBD = (180^\circ - 56^\circ) \div 2 \rightarrow 62^\circ$$

$$\angle EDC = \angle EBC = 62^\circ + 56^\circ \rightarrow 118^\circ$$

$$\angle FDC = 118^\circ - 56^\circ \Rightarrow \underline{62^\circ}$$

Q16b $\angle BCE = 180^\circ \div 3 \rightarrow 60^\circ$

$$\angle BCD = 180^\circ - 24^\circ \rightarrow 156^\circ$$

$$\angle DCE = 360^\circ - (156^\circ + 60^\circ) \rightarrow 360^\circ - 216^\circ \rightarrow 144^\circ$$

$$\angle CED = (180^\circ - 144^\circ) \div 2 \rightarrow 36^\circ \div 2 \Rightarrow \underline{18^\circ}$$

Q17 $\frac{20}{100} \times \frac{140}{1} = 28$

$$P \rightarrow 100\% + 28\% = 128\%$$

$$\text{Water left in P} \rightarrow \frac{3}{4} \times \frac{128}{1} = 96$$

$$112 - 96 = 16$$

$$16\% \rightarrow 900$$

$$1\% \rightarrow 900 \div 16 = 56.25$$

$$140\% \rightarrow 56.25 \times 140 \Rightarrow \underline{7875 \text{ ml}}$$

Q18a Cost cake $\rightarrow 1.20$ & cost bun $\rightarrow 1.20 \div 3 = 0.40$

$$1.20 \times 3 = 3.60$$

$$0.40 \times 2 = 0.80$$

$$3.60 + 0.80 = 4.40$$

$$264 \div 4.40 = 60$$

$$60 \times 3 \Rightarrow \underline{180 \text{ cakes}}$$

Q18b $60 \times 5 = 300$

$$300 \times 1.20 = 360$$

$$300 \times 0.40 = 120$$

$$120 + 360 \Rightarrow \underline{\$480}$$