FIRST SEMESTRAL ASSESSMENT 2016

PRIMARY 6

MATHEMATICS
PAPER 1

BOOKLET A

15 Questions
20 Marks

Total Time for Booklets A and B: 50 min

You are **not allowed** to use a calculator

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 correct oval (1, 2, 3 or 4) on the Optical Answer Sheet. (20 marks)

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1 How many thousands are there in 3 500 000?

(1) 35 000

(2) 3 500

(3) 350

(4) 35

2 The table below shows the time taken by four swimmers during a competition. Who came in first?

Swimmer	Time in seconds
Alex	31.6
Benjamin	30.9
Carl	33.8
Darren	35.7

(1) Alex

(2) Benjamin

(3) Carl

(4) Darren

3 $5 + \frac{7}{10} + \frac{3}{1000} =$ _____

(1) 5.73

(2) 5.073

(3) 5.703

(4) 5.0073

4 Which one of the following is not an equivalent fraction of one another?

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

(2) $\frac{4}{12}$

(3) $\frac{6}{9}$

(4) $\frac{10}{15}$

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

$$\frac{5}{11}, \frac{1}{5}, \frac{5}{10}$$

(1) $\frac{1}{5}, \frac{5}{10}, \frac{5}{11}$

(2) $\frac{5}{10}, \frac{5}{11}, \frac{1}{5}$

(3) $\frac{5}{10}, \frac{1}{5}, \frac{5}{11}$

(4) $\frac{5}{11}, \frac{5}{10}, \frac{1}{5}$

6 Which of the following is **TRUE**?

(1) $\frac{8}{10}$ is 8%

(2) 0.58 is 5.8%

(3) 25% of \$200 is \$100

(4) 45% is the same as $\frac{9}{20}$

7 What is the value of $(2 \times 2 + 2 + 2 \times 2 - 2 \times 2) \div 2$?

(1) 0

(2) 8

(3) 3

(4) 14

8 Simplify $9 + 6a - 4 + 2a$.

(1) 8a + 13

(2) 8a + 5

(3) 4a + 13

(4) 4a + 5

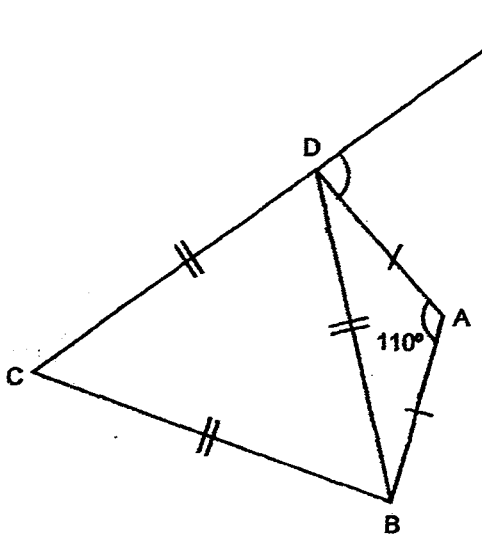
9 In the figure shown below not drawn to scale, AD = AB and BCD is an equilateral triangle. CDE is a straight line. Find $\angle ADE$.

(1) 35°

(2) 60°

(3) 85°

(4) 95°



10 In 82.34, what does the digit 3 represent?

(1) 3 ones

(2) 3 tens

(3) 3 tenths

(4) 3 hundredths

11 Tim is $1\frac{3}{4}$ m tall. Joey is 1.25 m tall. What is the ratio of Tim's height to Joey's height?

(1) 3 : 1

(2) 3 : 25

(3) 7 : 5

(4) 13 : 11

12 In a pet house, $\frac{5}{8}$ of the pets are rabbits and the rest are hamsters. $\frac{7}{10}$ of the rabbits are grey. There are 28 grey rabbits. How many pets are there in the pet house?

(1) 12

(2) 24

(3) 40

(4) 64

13 Sarah, Rekah and Megan shared $900. Rekah received 20% more than Sarah while Megan received 20% less than Sarah. How much did Sarah receive?

(1) $100

(2) $240

(3) $300

(4) $360

14 What is the 854th number in the following series?

1, 2, 4, 6, 8, 1, 2, 4, 6, 8, 1, 2, 4, 6, 8, 1, 2, ...

(1) 6

(2) 2

(3) 8

(4) 4

15 Find the difference between $\left(\frac{1}{2} \times 6\right)$ and $\left(\frac{2}{3} \div 4\right)$.

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

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

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

(4) $2\frac{5}{6}$

FIRST SEMESTRAL ASSESSMENT 2016

PRIMARY 6

MATHEMATICS
PAPER 1

BOOKLET B

15 Questions
20 Marks

Total Time for Booklets A and B: 50 min

You are **not allowed** to use a calculator

Booklet B

Name: _____ ( ) **Class:** P6 SY / C / G / SE / P

Do not write in this column

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 Round off 6.521 to 2 decimal places.

Ans: _____

17 Find the value of $8 \div \frac{2}{3}$.

Ans: _____

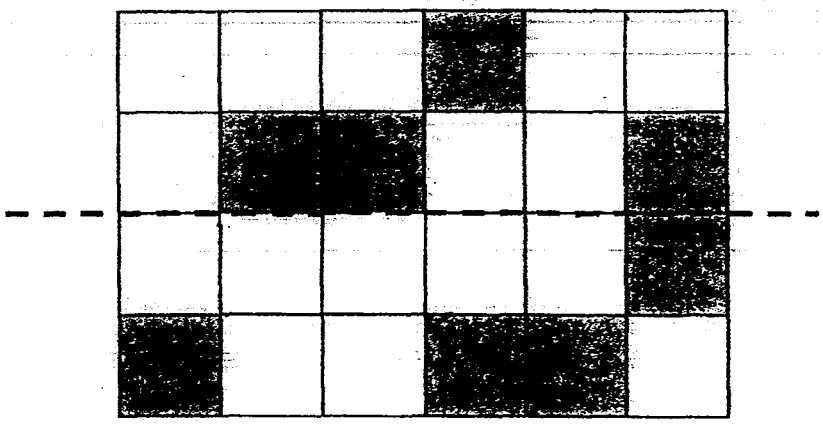
18 What is the product of the first two common multiples of 2 and 6?

Ans: _____

3

Do not write in this column

19 The figure below is made of squares. It has a line of symmetry as shown. Shade 4 more squares to complete the symmetric figure.



20 Express 3.6 as percentage.

Ans: _____%

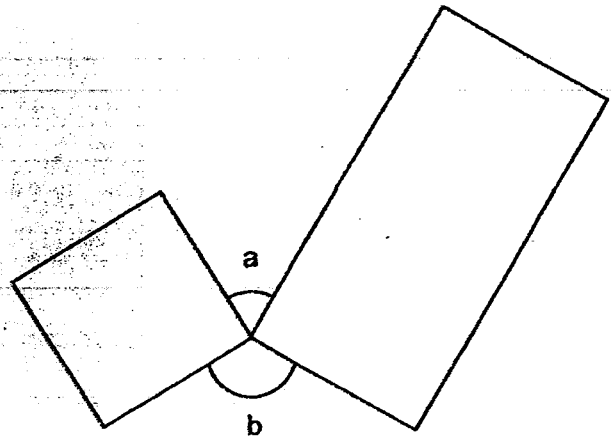
21 Find the value of $\frac{9q+4}{4}$ when $q = 8$.

Ans: _____

3

Do not write in this column

22 The figure below is not drawn to scale. It is made up of a square and a rectangle. Given that $\angle b$ is twice of $\angle a$, find $\angle a$.



Ans: _____ °

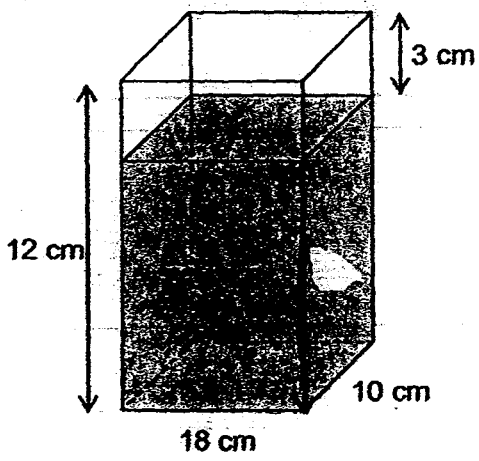
23 Timothy fills a 2.4 ℓ bottle with water from a tap. In one minute, 120 mℓ of water flows from the tap. How long does he take to fill the bottle?

Ans: _____ min

2

Do not write in this column

24 Find the volume of the water in the tank.



Ans: _____

25 The ratio of the sides of two squares is 3 : 4. Find the ratio of area of big square to area of small square.

Ans: _____

2

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

(10 marks)

Do not write in this column

26 Kym spent $\frac{1}{6}$ of her money on a birthday present and $\frac{2}{5}$ of the remainder on books. If she spent \$320 on books, how much money does she have at first?

Ans: \$ _____

---

27 A carton can hold either 8 big boxes or 24 small boxes. If a shop assistant has already put 6 small boxes and 3 big boxes into the carton, how many more big boxes can he put into the carton?

Ans: _____

---

28 100 lamp posts were placed at an equal distance of y m apart. Find the distance between the first and the last lamp posts.
(Leave your answer in terms of y.)

Ans: _____ m

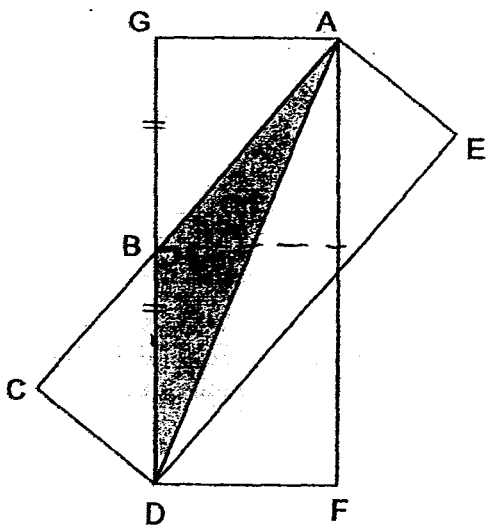
6

Do not write in this column

29 After giving away 45 marbles to his brother, Allan had $\frac{2}{3}$ of his marbles left. He then packed the remaining marbles into bags of 6. How many bags of marbles did Allan have?

Ans: _____

30 In the figure below, ACDE and AGDF are identical rectangles measuring 16 cm by 5 cm. Given that GB = BD. Find the area of triangle ABD.



Ans: _____ cm^2

4

FIRST SEMESTRAL ASSESSMENT 2016

PRIMARY 6

MATHEMATICS

PAPER 2

18 Questions
60 Marks

Total Time for Paper 2: 1 h 40 min

You **are allowed** to use the calculator

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

Do not write in this column

1 Darren bought 3 tables and 6 chairs for $367.20.
Each table cost twice as much as a chair. Find the cost of a table.

Ans: $ _____

2 Mr Wee spent 25% of his salary on a suitcase and half of the rest of his salary on his house loan. He had $825 left. What is Mr Wee's salary?

Ans: $ _____

4

Do not write in this column

3 An ice cream stall sells ice-cream with peanut and blueberries toppings. Tiffany may choose from no topping to 2 toppings per ice-cream. The toppings cannot be repeated. How many different combinations of ice-cream can she order?

Ans: _____

4 Study the pattern of the figures below. How many coloured squares will there be when there are 30 white squares?

Pattern 1 Pattern 2 Pattern 3

Ans: _____

4

5. In a competition, 37 pupils received bronze and silver, 58 pupils received silver and gold. Find the difference between the number of pupils who received bronze and gold.

Do not write in this column

Ans: _____

2

Questions 6 to 18, show your working clearly in the space below each question and write your answers in the space provided. The number of marks awarded is shown in the brackets [ ] at the end of the question or part-question.

(50 marks)

Do not write in this column

6 Madeline packed some cookies into two bottles A and B. She packed $\frac{3}{4}$ as many cookies into Bottle A as Bottle B at first. After transferring 24 cookies from Bottle A to Bottle B, there are now $\frac{1}{4}$ as many cookies into Bottle A as Bottle B. How many more cookies were there in Bottle B than Bottle A at first?

Ans : _____ [3]

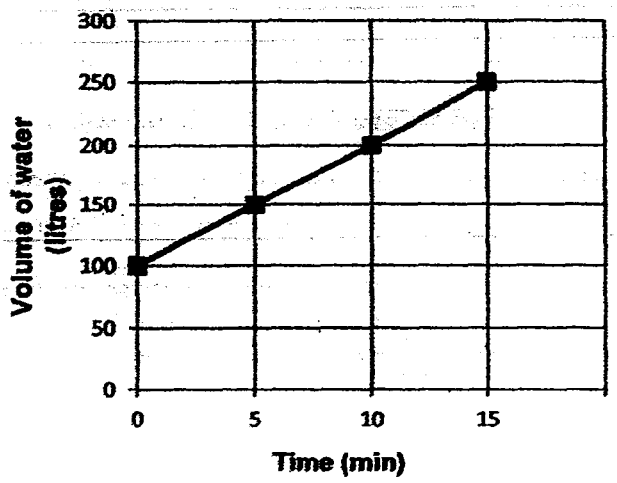
7 300 people helped out in a carnival. When $\frac{3}{4}$ of the men and $\frac{3}{5}$ of the women left the carnival, the total number of people left at the carnival became 90. How many women helped out at the carnival at first?

Ans : _____ [3]

6

8 A tank was $\frac{1}{8}$ filled with water. The line graph below shows volume of water in the tank over 15 minutes. How long more does it take to fill the tank fully?

Do not write in this column



Ans : _____ [3]

9 Andy and Cal weigh 75 kg. Bain and Cal weigh 63 kg. Andy and Bain weigh 80 kg. What is the weight of the lightest boy?

Ans: _____ [3]

6

10 A factory produced red and blue toy cars. On the first day, 70 more blue toy cars were produced than red toy cars. On the second day, the number of blue toy cars produced was decreased by 10% and the number of red toy cars produced was increased by 30%. Given that 1273 blue and red toys cars were produced on the second day, how many blue toy cars was produced on the second day?

Do not write in this column

Ans : _____ [3]

3

11 In a fishing competition, Janice caught 20 fish. There were only red and blue fish in the pond. 8 points were awarded for every red fish caught and 3 points were awarded for every blue fish caught. Janice was awarded 150 points. How many red fish did she catch?

Do not write in this column

Ans : _____ [4]

4

12 Mrs Wong bought a vacuum cleaner for $336 after a 30% discount.

a) What is the cost of the vacuum cleaner before discount?

b) She paid $95 for an iron.
The total discount for both the vacuum cleaner and the iron was $174.
What percentage discount was given to the iron?

Do not write in this column

Ans: (a) _____ [1]

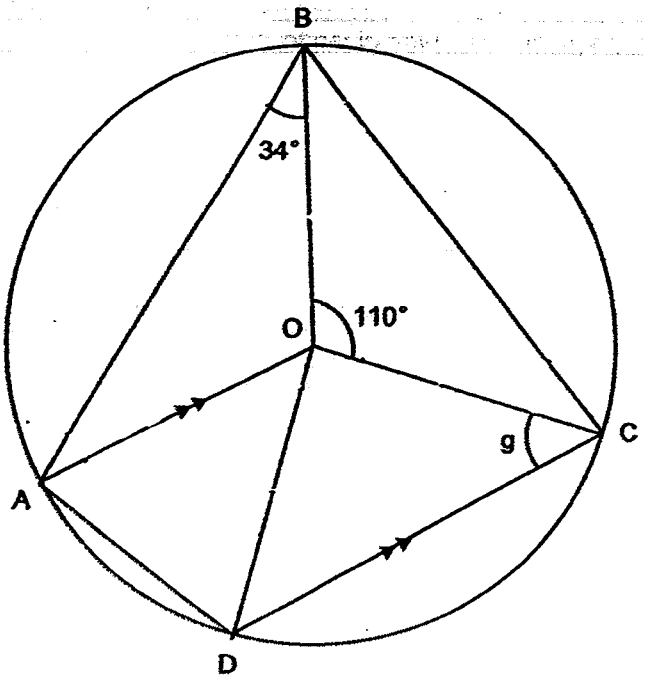
(b) _____ [3]

4

13 In the figure below, O is the centre of the circle and AO is parallel to DC.

Find $\angle g$.

Do not write in this column



Ans: _____ [4]

4

14 A farm produced 3150 more ~~chicken~~ duck eggs than ~~duck~~ chicken eggs. After selling $\frac{7}{12}$ of the chicken eggs and $\frac{7}{9}$ of the duck eggs, there was an equal number of chicken eggs and duck eggs left. How many eggs did the farm produce altogether?

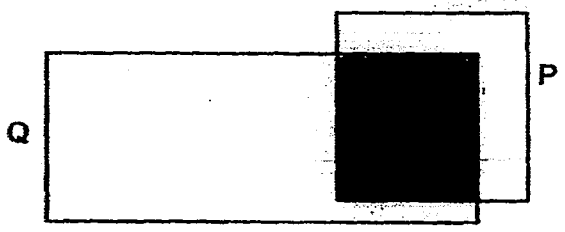
Do not write in this column

Ans : _____ [4]

4

15 Square P and Rectangle Q overlap each other as shown in the figure below. The ratio of the area of Square P to its shaded area is 7 : 4. The area of Square P is $\frac{2}{3}$ of the area of Rectangle Q. Given that the total unshaded area of the figure is 57cm^2, find the area of the whole figure.

Do not write in this column



Ans : _____ [4]

4

16 Tiffany had 60% as many sweets as Sue Ann. Tiffany gave away 20% of her sweets and Sue Ann bought another 46 sweets. Tiffany now has 25% as many sweets as Sue Ann. Find the number of sweets Tiffany had at first.

Do not write in this column

Ans : _____ [5]

5

17 Mrs Tan bought some guavas at $1.20 each and some mangoes at $2 each. She spent $2.40 less on the mangoes than on guavas. However, she bought 8 more guavas than mangoes.

a) How many mangoes did she buy?

b) How much did she spend on guavas?

Do not write in this column

Ans: (a) _____ [3]

(b) _____ [2]

5

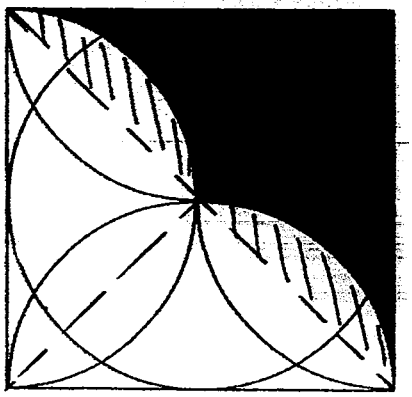
18 The figure is made up of a square of side 40 cm, a circle and identical semicircles. Find

a) The area of the shaded figure.

b) The perimeter of the shaded figure.

(Take $\pi = 3.14$)

Do not write in this column



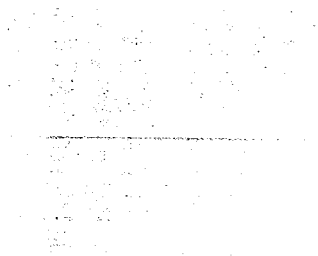
40 cm

Ans: (a) _____ [3]

Ans: (b) _____ [2]

5

END



YEAR : 2016
LEVEL : PRIMARY 6
SCHOOL : : SCGS
SUBJECT : : MATHEMATICS
TERM : SA1

Paper 1
Booklet A

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

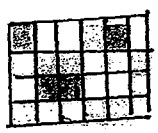
Booklet B

Q16 6.52

Q17 12

Q18 72

Q19



Q20 360%

Q21 $\frac{(9X8)+4}{4} = \frac{72+4}{4} = \frac{76}{4} = \underline{19}$

Q22 3U → 360° - 90° X 2 = 180° ⇒ ∠a → $\frac{180°}{3} = \underline{60°}$

Q23 2.4 ι = 2400 mι. Time ⇒ $\frac{2400ml}{120ml} = \underline{20 \text{ min}}$

Q24 18 cm x 10 cm x 9 cm = $\underline{1620 \text{ cm}^3}$

Q25 16 : 9

Q26 \$160 x 6 = \$960

Q27 3 big boxes

Q28 99 ym

Q29 $1u \rightarrow 45$, $2u \rightarrow 45 \times 2 = 90 \Rightarrow \frac{90}{6} =$ <u>15 bags</u>

Q30 $\frac{1}{2} \times \frac{8}{1} \times \frac{5}{1} = 20\ cm^2$

<u>Paper 2</u>

Q1 $3T + 6C = \$367.20$, $1T \rightarrow 2u$, $1C \rightarrow 1u$, $3T + 6C \rightarrow 2u \times 3 + 1u \times 6 =$ $12u$, $1u \rightarrow \frac{\$367.20}{12} = \$30.60 \Rightarrow$ Table (2u) $\$30.60 \times 2 =$ <u>$61.20</u>

Q2 $25u \rightarrow$ suitcase , $100u - 25u = 75u$, house loan $\rightarrow$ ½ x $75u = 37.5u$ (left)
$37.6u \rightarrow \$825$, $1u \rightarrow \frac{\$825}{37.5} = \$22 \Rightarrow$ salary > $\$22 \times 100 =$ <u>$2200</u>

Q3 4

Q4 $96 - 30 = 66$ coloured squares

Q5 $58 - 37 =$ <u>21</u>

Q6 $1u \rightarrow \frac{24}{8} = 3$, $20u - 15u = 5u \Rightarrow 3 \times 5 =$ <u>15</u>

Q7 $\frac{1}{4}$ of M + $\frac{2}{5}$ of W = 90
$\frac{3}{4}$ of M + $\frac{3}{5}$ of W $\rightarrow 300 - 90 = 210$
$\frac{1}{4}$ of M + $\frac{1}{5}$ of W $\rightarrow 210 \div 3 = 70$
$\frac{1}{5}$ of W $\rightarrow 90 - 70 = 20$
$20 \times 5 =$ <u>100</u>

Q8 $100\iota = \frac{1}{8}$ of tank
Tank $\rightarrow 100\iota \times 8 = 800\iota$
$150\iota - 100\iota = 50\iota$
5 min $\rightarrow 50\iota$
1 min $\rightarrow 50\iota \div 5 = 10\iota$
Water more $800\iota - 250\iota = 550\iota \Rightarrow$ Time $550\iota \div 10\iota =$ <u>55 min</u>

Q9 80 kg + 63 kg + 75 kg = 218 kg
218 kg ÷ 2 = 109 kg
Andy→ 80 – 34 = 46 kg, Bain→ 63 – 29 = 34 kg, Cal→ 109 – 80 = <u>29kg</u>

Q10 130u + 90u = 220u
220u → 1273 – 63 = 1210
1u → 1210 ÷ 220 = 5.5
5.5 x 90 + 63 = <u>558 blue toy cars</u>

Q11 Total → 20 x 3 = 60
Diff → 150 – 60 = 90
Individual diff → 8 – 3 = 5
Red fish ⇒ $\frac{90}{5}$ = <u>18</u>

Q12a Original price ⇒ $\frac{\$336}{70}$ x 100 = <u>$480</u>

Q12b Discount price, vacuum → $480 - $336 = $144
Discounted price, iron → $174 - $144 = $30
% discount, iron $\frac{\$30}{\$95+\$30}$ x 100% = <u>24%</u>

Q13 ∠OCB → (180° - 110°) ÷ 2 = 35°
∠BOA → 180° - 34° x 2 = 112°
∠AOC → 360° - 110° - 112° = 138°
∠g 180° - 138° = <u>42°</u>

Q14 Duck egg left → 1 - $\frac{7}{9}$ = $\frac{2}{9}$
Chicken egg left → 1 - $\frac{7}{12}$ = $\frac{5}{12}$
$\frac{2}{9}$ of D = $\frac{5}{12}$ of C → $\frac{10}{45}$ of D = $\frac{10}{24}$ of C
45u – 24u = 21u → 3150
1u → $\frac{3150}{21}$ = 150
Total 150 x (24 + 45) = <u>10350 eggs</u>

Q15 Unshaded P → 14u – 8u = 6u
Unshaded Q → 21u – 8u = 13u
13u + 6u = 19u → 57 cm^2
1u → 57 cm^2 ÷ 19 = 3 cm^2
Total area ⇒ 3 cm^2 x (21 + 6) = 81 cm^2

Q16 Tiffany 48u or 25p

Sue Ann 100u + 46 or 100p

100p ÷ 25p = 4

48u x 4 = 100u + 46

192u = 100u + 46

92u → 46

$1u \rightarrow \frac{46}{92} = 0.5 \Rightarrow 0.5 \times 60 =$ <u>30 sweets</u>

Q17a

	No.	X	Value
Guavas	1u + 8	$1.20	1.2u + $9.60
Mangoes	1u	$2	2u

2u + $2.40 = 1.2u + $9.60

2u = 1.2u + [$9.60 - $2.40=($7.20)]

$0.8u \rightarrow \$7.20 \Rightarrow 1u \rightarrow \frac{\$7.20}{0.8} =$ <u>9 mangoes</u>

Q17b (9 + 8) x $1.20 = <u>$20.40</u>

Q18a Semicircle → $\frac{1}{2}$ x 20 cm x 20 cm x 3.14 = 628cm^2

Small triangle → $\frac{40cm \times 40cm}{2} \div 2 = 400$ cm^2

Two half leafs → 628 cm^2 – 400 cm^2 = 228 cm^2

½ of square → ½ x 40 cm x 40 cm = 800 cm^2

Shaded area → 800 cm^2 – 228 cm^2 = <u>572 cm^2</u>

Q18b Semicircle arc → ½ x 40 cm x 3.14 = 62.8 cm

Perimeter → 40 cm x 2 + 62.8 cm = <u>142.8 cm</u>

END