METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887

MID-YEAR EXAMINATION 2017
PRIMARY 6
MATHEMATICS

PAPER 1
(BOOKLET A)

Total Time for Booklets A and B: 50 minutes

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Shade your answers in the Optical Answer Sheet (OAS) provided.
The use of calculators is **NOT** allowed.

Name: _____ ( )

Class: Primary 6._____

Date: 5 May 2017

20

This booklet consists of 6 printed pages including this page.

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 Round off 81 604 to the nearest thousand.

(1) 80 600
(2) 81 000
(3) 81 600
(4) 82 000

2 In 946 875, which digit is in the ten thousands place?

(1) 8
(2) 7
(3) 6
(4) 4

3 Which one of the following fractions is greater than $\frac{1}{3}$?

(1) $\frac{7}{21}$
(2) $\frac{6}{17}$
(3) $\frac{4}{13}$
(4) $\frac{3}{11}$

4 In a group of 80 children, 56 were girls. What percentage of the children were boys?

(1) 24 %
(2) 30 %
(3) 43 %
(4) 70 %

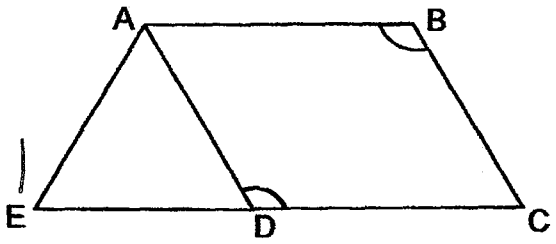
5 The breadth of a rectangle is 12 cm and its length is 20 cm. Find the ratio of the breadth of the rectangle to its area.

(1) 1 : 12
(2) 1 : 20
(3) 3 : 5
(4) 3 : 16

6 Mark cycled 11.05 km, swam 5 050 m and ran 10.01 km as part of his training for a triathlon in 3 hours. What was the total distance that he covered in metres?

(1) 26.56 m
(2) 7 156 m
(3) 26 110 m
(4) 71 560 m

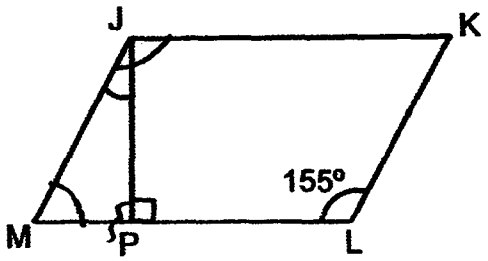
7 In the figure, ADE is an equilateral triangle and ABCD is a parallelogram. CDE is a straight line. Find $\angle ABC$.



(1) 30°
(2) 60°
(3) 120°
(4) 150°

(Go on to the next page)

8 In the figure below, JKLM is a parallelogram. Find $\angle PJM$.



(1) 25°
(2) 45°
(3) 65°
(4) 115°

9 Find the value of $8h + 6 + 3h - 2$ when $h = 6$.

(1) 64
(2) 70
(3) 72
(4) 74

10 Which one of the following statements is **false**?

(1) The radius of a circle is half the length of its diameter.
(2) The diameter of a circle passes through the centre of a circle.
(3) The diameter is slightly more than three times the circumference of a circle.
(4) The circumference of a circle is slightly more than three times its diameter.

(Go on to the next page)

11 At a party, $\frac{3}{5}$ of the guests were adults. $\frac{1}{6}$ of the adults were men. $\frac{3}{4}$ of the children were boys. What fraction of the guests were males?

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

(2) $\frac{31}{60}$

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

(4) $\frac{11}{12}$

12 There are apples, oranges and pears in a basket. The ratio of the number of apples to the number of oranges is 5 : 2. The ratio of the number of oranges to the number of pears is 1 : 4. What is the ratio of the number of apples to the total number of fruits in the basket?

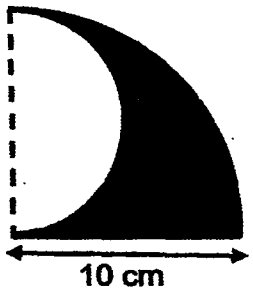
(1) 1 : 2
(2) 1 : 3
(3) 5 : 7
(4) 5 : 11

13 Janice baked some muffins. She gave 20% of the muffins to her friends and ate $\frac{1}{3}$ of the remaining muffins. She had 24 muffins left.

How many muffins did she bake?

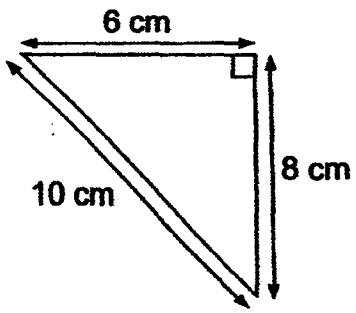
(1) 9
(2) 12
(3) 36
(4) 45

14 The figure below is made of a quarter circle and a semi-circle. What is the perimeter of the figure? Leave your answer in terms of π.



(1) 7.5π cm
(2) 10π cm
(3) $(10\pi + 10)$ cm
(4) $(15\pi + 10)$ cm

15 The triangle below is not drawn to scale. What is its area?



(1) 24 cm^2
(2) 30 cm^2
(3) 40 cm^2
(4) 48 cm^2

(Go on to Booklet B)

MID-YEAR EXAMINATION 2017
PRIMARY 6
MATHEMATICS

PAPER 1
(BOOKLET B)

Total Time for Booklets A and B: 50 minutes

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Write your answers in this booklet.
The use of calculators is **NOT** allowed.

Name: _____ ( )

Class: Primary 6._____

Date: 5 May 2017

Parent's Signature: _____

Paper 1 Booklet A	**/ 20**
Paper 1 Booklet B	**/ 20**
Paper 2	**/ 60**
TOTAL	**/ 100**

This booklet consists of 8 printed pages including this.

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)

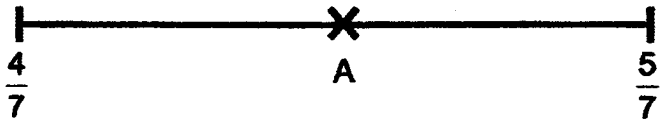
Do not write in this space

16 Find the value of 206 x 50.

Ans: _____

17 In the number line below, A is the mid-point of two fractions.

What is the value of A? Give your answer in the simplest form.



Ans: _____

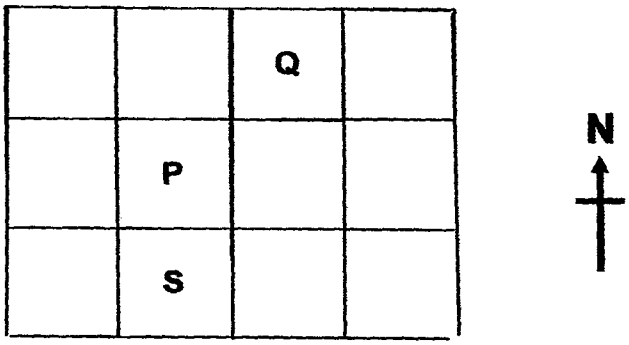
18 $\frac{1}{2}$ of A is equal to $\frac{2}{5}$ of B. What is the ratio A : B?

Ans: _____

(Go on to the next page)

For **Questions 19** and **20**, refer to the grid below.

The grid shows the plan of a city. Town P is north of Town S.



Do not write in this space

19 Town R is South-West of Town P and West of Town S.

20 Town T is East of Town P and South-East of Town Q.

21 The number of apples is $\frac{5}{6}$ of the number of pears. What is the ratio of the number of pears to the total number of fruits?

Ans: _____

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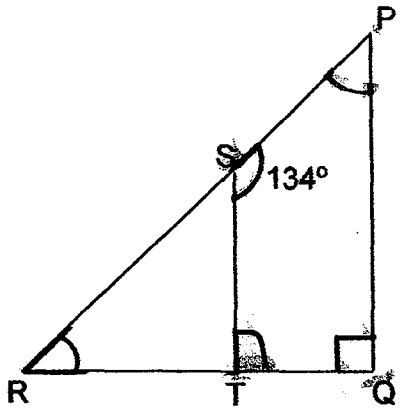
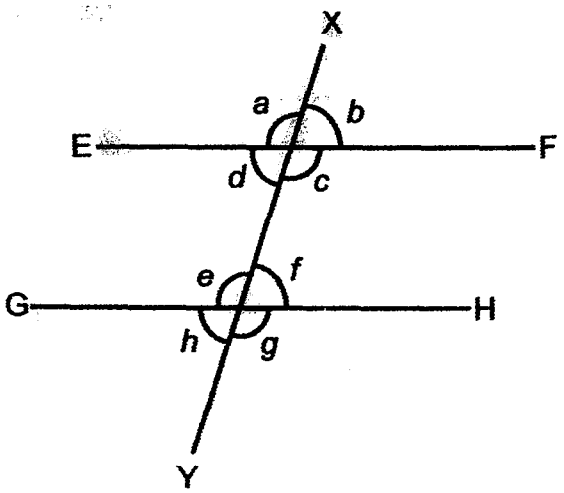
22 In the figure below, PQTS is a trapezium and PQR is a right-angled triangle. Find ∠PRQ.



Ans: _____ °

23 In the figure below, XY is a straight line and EF is parallel to GH. Name all the angles that are equal to ∠a.



Ans: _____

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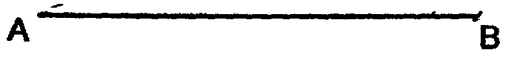
24 AB is a straight line. Draw a triangle with $\angle CBA = 125°$.
Label the point C.

Do not w
in this spa



25 A school hall has 720 chairs. Three out of every four chairs are occupied.
How many chairs are vacant?

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 Ali needed to pack 1 450 cans into cartons. He could only pack 250 cans into each carton. How many cans were left unpacked?

Ans: _____

27 The perimeter of a rectangle is twice the perimeter of a square.
The breadth of the rectangle is the same as the length of the square.
What is the length of the rectangle, given that the breadth of the rectangle is b cm? Give your answer in terms of b.

Ans: _____ cm

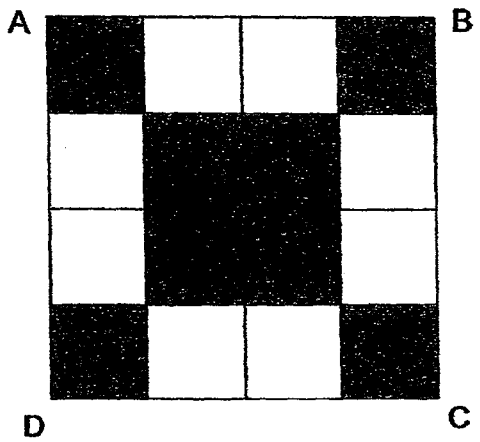
(Go on to the next page)

28 The amount of money that Ruth and Amanda had was in the ratio of 4 : 9. After Amanda gave $30 to Ruth, they had the same amount of money. How much did they have altogether?

Do not in this s

Ans: $ _____

29 The figure ABCD, not drawn to scale, is made up of 16 identical squares. The area of the shaded parts is 648 cm^2. Find the perimeter of figure ABCD.



Ans: _____ cm

(Go on to the next page)

30 1 kg of prawns cost $\$n$ and 1 kg of fish cost \$3 more.
Bala bought 3 kg of prawns and 2 kg of fish.
How much did he pay altogether for the prawns and fish?

Do not write in this space

Ans: \$ _____

End of Paper

M'Mid -YEAR EXAMINATION 2017
PRIMARY 6
MATHEMATICS

PAPER 2

Duration: 1hour 40 minutes

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Write your answers in this booklet.
The use of an approved calculator is expected, where appropriate.

Name: _____ ( )

Class: Primary 6._____

Date: 5 May 2017

Parent's Signature: _____

60

This booklet consists of 15 printed pages including this page.

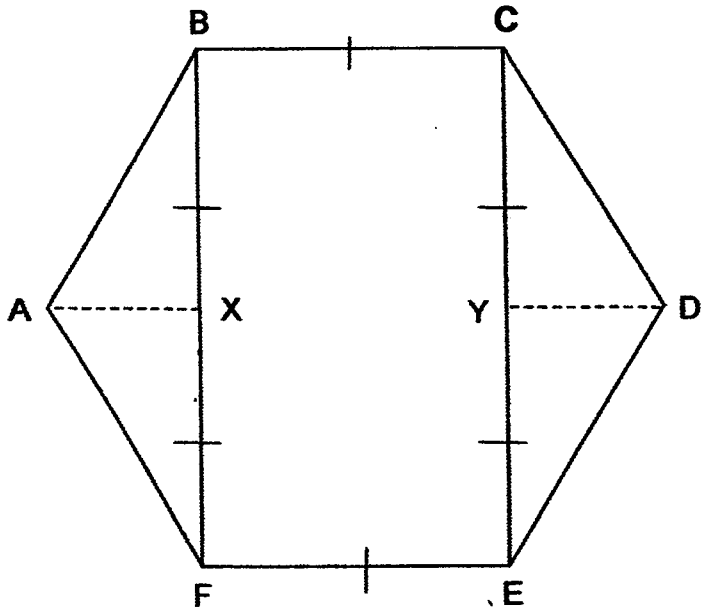
Questions **1** to **5** carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

Do not write in this space

1 The figure below is made up of 2 identical triangles, ABF and CDE, and a rectangle, BCEF. The area of triangle ABF is 15 cm^2.

BC = CY = YE = EF = FX = XB = 3 cm.

Find the area of the figure below.



Ans: _____ cm^2

(Go on to the next page)

2 Sally received 60% of the votes for chairperson and she received 38 more votes than the other candidates. What was the total number of votes cast?

Do not write in this space

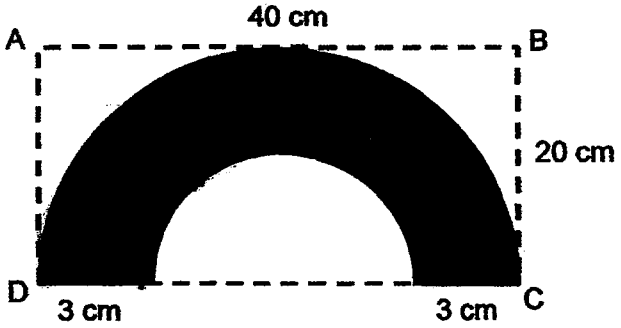
Ans: _____

3 The mass of a box with 50 identical balls in it is 1 070 g.
When 10 of the balls are removed, the mass of the box with the remaining balls is 950 g. What is the mass of each ball?

Ans: _____ g

(Go on to the nexxt page)

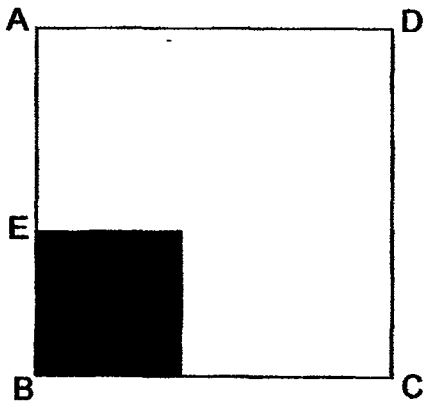
4 ABCD is a rectangular cardboard measuring 40 cm by 20 cm. Mary cut out a semicircle and 2 corners from it. Find the perimeter of the remaining cardboard which is shaded below.
Leave your answer in terms of π.



Do not write in this space

Ans: _____ cm

5 ABCD is a square of area 1 296 cm². The shaded square within ABCD has an area of 81 cm². What is the length of AE?



Ans: _____ cm

(Go on to the nexxt page)

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 Gavin was paid \$4.80 to assemble a table.

He received an additional \$6.60 for every 8 tables that he assembled.

Gavin received a total of \$253.80. How many tables did Gavin assemble?

Ans: _____ [3]

7 Three children sold a number of tickets. Ally sold $\frac{1}{8}$ of the tickets.

Brenda sold 4 tickets more than Ally. Cathy sold 32 tickets.

How many tickets did they sell altogether?

Ans: _____ [3]

(Go on to the nexxt page)

8 40% of the number of shells that June has is equal to 25% of the number of shells that Sharon has. June has 45 shells less than Sharon.
How many shells do they have altogether?

Do not write in this space

Ans: _____ [3]

9 Mrs Lim's age and her daughter's age are in the ratio of 6 : 1.
Mrs Lim is 30 years older than her daughter.
In how many years' time will Mrs Lim be 4 times as old as her daughter?

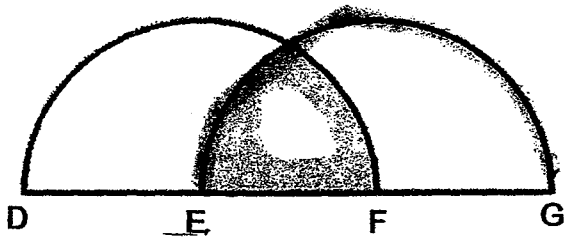
Ans: _____ [3]

10 The figure below shows 2 similar semicircles that overlap.

The area of the shaded region is $\frac{3}{7}$ of the area of one semicircle.

DE = EF = FG = 7 m.

Find the area of the unshaded region. (Take $\pi = \frac{22}{7}$)



Do not write in this space

Ans: _____ [3]

11 Jane went to a boutique with $434, which was just enough to buy 6 similar dresses and 5 similar skirts. When she was there, she bought 5 similar dresses and 6 similar skirts instead. She had $21 left. What was the cost of a dress?

Do not write in this space

Ans: _____ [4]

12 May Lin paid a total of \$120 for some books and pens. A book cost \$$m$. She bought 4 more books than pens.

(a) How much did May Lin spend on the pens?

Give your answer in terms of m.

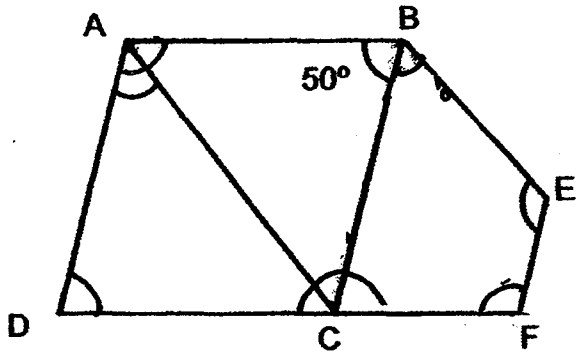
(b) If $m = 6$, how much did she spend on the books?

Do not write in this space

Ans: (a) _____ [2]

(b) _____ [2]

13 In the figure below, ABCD is a rhombus and BEFC is a trapezium.
AC is parallel to BE and BC is parallel to EF.
DCF is a straight line. ∠ABC is 50°.
(a) Find ∠CAD.
(b) Find ∠BEF.

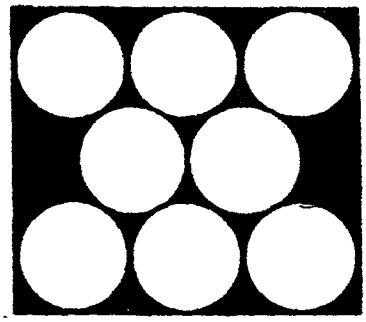


Do not write in this space

Ans: (a) _____ [2]

(b) _____ [2]

14 A square tile of sides 51 cm has the following design made up of 8 similar circles. What is the area of the region not covered by the circles? (Take π=3.14)



Do not write in this space

Ans: _____ [4]

15 Mr Ng bought 5 kg of white rice and 4 kg of brown rice for $27. The cost of 1 kg of white rice was $2.25 less than the cost of 1 kg of brown rice. He mixed the white and brown rice and re-sold the mixture at $1.50 per kg.

(a) How much did he sell 9 kg of the mixture for?

(b) How much did 1 kg of white rice cost at first?

Do not write in this space

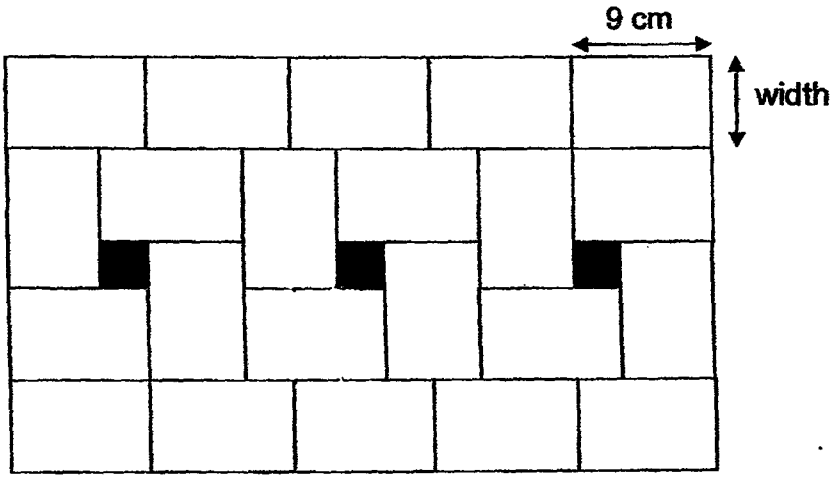
Ans: (a) _____ [1]

(b) _____ [3]

16 Some identical rectangular tiles were arranged to form a rectangle as shown. The length of each tile was 9 cm.

(a) What was the width of each tile?

(b) Find the total area of the shaded regions.



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Ans: (a) _____ [2]

(b) _____ [3]

17 In the beginning, the ratio of Pamela's beads to Dani's beads was 10 : 7. Pamela gave 30% of her beads to Dani. Dani then gave 25% of her beads to Pamela. In the end, Dani had 32 beads fewer than Pamela. How many beads did Pamela have at first?

Do not write in this space

Ans: _____ [5]

18 Martha put some erasers and pens in 2 boxes. She put the same number of erasers in each box.

In Box A, the ratio of the number of erasers to the number of pens was 3 : 4.

In Box B, the number of erasers was twice the number of pens.

Martha then transferred half of the number of pens from Box A to Box B.

The number of items in Box A then became 120.

(a) What was the ratio of the number of erasers to the number of pens in Box B after the transfer?

(b) What was the number of items in Box B after the transfer?

Do not write in this space

Ans: (a) _____ [3]

(b) _____ [2]

END OF PAPER

EXAM PAPER 2017
LEVEL : PRIMARY 6
SCHOOL : MGS
SUBJECT : MATHEMATICS
TERM : SA1

Paper 1

Booklet A

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

Booklet B

Q16 10300

Q17 $\frac{9}{14}$

Q18 4:5

Q19/Q20

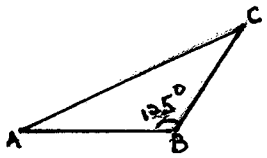
		Q	
	P		T
R	S		

Q21 6 :11

Q22 44

Q23 $\angle c, \angle g, \angle e$

Q24



Q25 180

Q26 200 cans

Q27 3b

Q28 156

Q29 144

Q30 (5n+6)

Paper 2

Q1. Area of rectangle BCEF = 3 x 6 = 18 cm^2
Total area = (15+15+18) = **48 cm^2**

Q2 100% - 60% = 40%
60% - 40% = 20%
20% → 38
100% → **190**

Q3 50 balls + 1box → 1070g
40 balls + 1 box → 950g
10 balls → 120g
1 ball → 120 ÷ 10 = **12g**

Q4 $\frac{1}{2}$ x 40 x π = 20π
40 – 3 – 3 = 36
$\frac{1}{2}$ x 36 x π = 17π
20π + 17π = 37π
Perimeter of the shaded = **(37π + 6)cm**

Q5 $\sqrt{1296} = 36$
$\sqrt{81} = 9$
36 – 9 = **27cm**

Q6 \$4.80 x 8 = \$38.40
\$38.40 + \$6.60 = \$45
\$253.80 ÷ 45 = $5\frac{2}{3}$
5 x 8 = 40
\$4.80 x 40 = \$192
\$6.60 x 5 = \$33
\$192 + \$33 = \$225
\$253.80 - \$225 = \$28.80
\$28.80 ÷ \$4.80 = 6
Number of tables = 40 + 6 = **46 tables**

Q7 32 + 4 = 36
36 ÷ 6 = 6
6 x 8 = **48 tickets**

Q8 $\frac{2}{5}$ of June = $\frac{1}{4}$ of Sharon
$\frac{2}{5}$ of June = $\frac{2}{8}$ of Sharon

3u → 45
1u → 15
15 x 13 = **195 shells**

Q9 $5u \rightarrow 30$
$1u \rightarrow 6$
$6 \times 6 = 36$

$3u \rightarrow 30$
$1u \rightarrow 10$
$10 \times 4 = 40$

$40 - 36 =$ **4 years**

Q10 $\frac{1}{2} \times 7 \times 7 \times \frac{22}{7} = 77$
$77 \div 10 = 7.7$
$7.7 \times 14 = 107.8$
$\frac{4}{7} \times 77 = 44$
$44 \times 2 =$ **88 m²**

Q11 $(6D + 5S = \$434)_{\times 6}$
$(5D + 6S = \$413)_{\times 5}$

$36D + 30S = \$2604$
$25D + 30S = \$2065$

$11D = \$539$
$1D =$ **\$49**

Q12 (a) $(\$120 - 4m) \div 2 = \$(\frac{120-4m}{2})$

(b) Cost of pens = \$48
Cost of books = \$120 - \$48 = **\$72**

Q13 (a) $130° - 2 =$ **65°**
(b) $360° - 65° - 50° - 130° =$ **115°**

Q14 Diameter of 1 circle $= 51 \div 3 = 17$cm
Area of 1 circle $= 3.14 \times 8.5 \times 8.5 = 226.865$cm²
Area of 8 circles $= 226.865 \times 8 = 1814.92$cm²
Area of square $= 51 \times 51 = 2601$ cm²
Area of shaded $= 2601 - 1814.92 =$ **786.08cm²**

Q15 (a) $\$1.50 \times 9 = \$13.50$

(b) $5W + 4B = \$27$
$(1B = 1W + \$2.25)_{\times 4}$
$4B = 4W + \$9$

$5W + 4W + \$9 = \$27$
$9W = \$18$
1W = \$2

Q16 (a) 5 length of rectangle → 45cm
3 length of rectangle + 3 width → 45

2 length of rectangle → 3 width
3 width → 2 x 9 = 18cm
1 width = **6cm**

(b) 9 x 5 = 45
6 x 6 = 36
45 – 36 = 9
9 ÷ 3 = 3
3 x 3 = 9 (area of 1 shaded square)
9 x 3 = **27cm²**

Q17

Pamela	**:**	**Dani**	
10	:	7	x2
20	**:**	**14**	Pamela gave 30% to Dani
-6		+6	
14	:	20	Dani gave 25% to Pamela
+5		-5	
19	:	15	

4u → 32
20u → 160 beads

Q18

Box A

Eraser	**:**	**Pen**
3	:	4
6	**:**	**8**
		-4
6	:	4

Box B

Eraser	**:**	**Pen**	
6	**:**	**3**	No. of eraser twice the pen
		+4	Transferred half pen to box B from Box A
6	:	7	

(a) **6 : 7**

(b) 10u → 120
13u → 156 items