

METHODIST GIRLS' SCHOOL

Founded in 1887



PRIMARY 6 MID-YEAR EXAMINATION 2011 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 2011

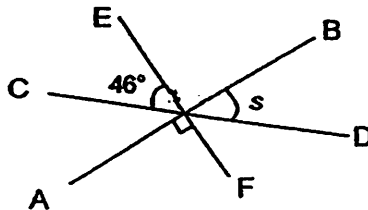
This booklet consists of 6 printed pages including this page.

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

- 1 Mrs Tan had m sweets. She gave 10 sweets to her neighbour. She then shared the remaining sweets equally between her two sons. How many sweets did each son receive?

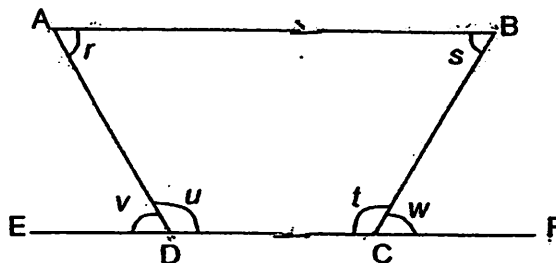
- (1) $m - (10 + 2)$
 (2) $(m - 10) + 2$
 (3) $(10 - m) + 2$
 (4) $10 - (m + 2)$

- 2 The figure below is not drawn to scale. AB, CD and EF are straight lines. Find $\angle s$.



- (1) 44°
 (2) 46°
 (3) 54°
 (4) 56°

- 3 In the figure below, not drawn to scale, ABCD is a trapezium and $AB \parallel EF$.
 $\angle r + \angle s = \angle \text{---} + \angle v$.

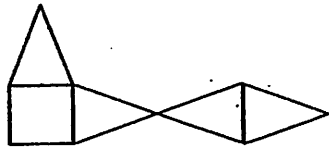


- (1) t
 (2) u
 (3) v
 (4) w

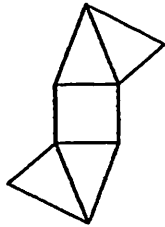
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4 Which of the following nets will form a pyramid?

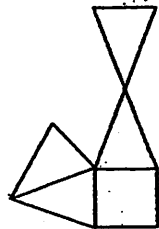
(1)



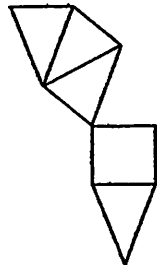
(2)



(3)



(4)



5 80 tens, 88 tenths and 8 thousandths is _____.

- (1) 80.808
- (2) 88.808
- (3) 800.808
- (4) 808.808

(Go on to the next page)

6 $\frac{1}{2}$ of X is equal to $\frac{2}{5}$ of Y. What is Y : X + Y?

- (1) 2 : 3
- (2) 2 : 7
- (3) 5 : 7
- (4) 5 : 9

7 Express 0.25% as a decimal.

- (1) 25
- (2) 2.5
- (3) 0.025
- (4) 0.0025

8 Find the value of $7 \times (34 - 28) - 24 \div 2$.

- (1) 9
- (2) 30
- (3) 44
- (4) 93

9 Complete the following number pattern:

4 400, 2 200, 6 600, _____, 9 900, 4 950

- (1) 1 100
- (2) 3 300
- (3) 4 400
- (4) 5 500

10 Find the diameter of the circle if its circumference is 132 cm. (Take $\pi = \frac{22}{7}$.)

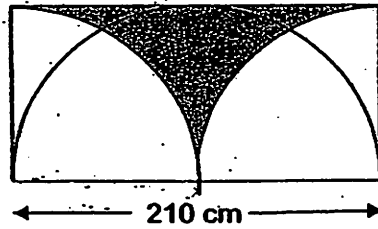
- (1) 12 cm
- (2) 21 cm
- (3) 42 cm
- (4) 84 cm

(Go on to the next page)

- 11 In a bookstore, $\frac{2}{5}$ of the books are Chinese books.
The rest of the books are in English.
 $\frac{2}{9}$ of the English books are non-fiction.
What fraction of the books are English fiction books?
- (1) $\frac{2}{15}$
(2) $\frac{7}{15}$
(3) $\frac{4}{45}$
(4) $\frac{14}{45}$
- 12 Malcolm had blue and red marbles in the ratio 7 : 2. After he had given away 15 blue marbles, the ratio of blue marbles to red marbles became 2 : 1. How many marbles were there altogether at first?
- (1) 18
(2) 27
(3) 30
(4) 45
- 13 The length of a square is 10 cm. Find the percentage increase in the area of the square if each side is increased by 20%.
- (1) 20 %
(2) 40 %
(3) 44 %
(4) 80 %

(Go on to the next page)

- 14 The figure below, not drawn to scale, is formed by a semicircle and two quadrants in a rectangle. Find the perimeter of the shaded part. (Take $\pi = \frac{22}{7}$.)



- (1) 330 cm
(2) 420 cm
(3) 540 cm
(4) 750 cm
- 15 Mr Wong left his house for work at 6.50 a.m. His office was 120 km away from his house. Mr Wong drove his car at a speed of 80 km/h. At what time did he reach his office?
- (1) 7.30 a.m.
(2) 8.00 a.m.
(3) 8.20 a.m.
(4) 8.40 a.m.

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PRIMARY 6 MID-YEAR EXAMINATION 2011 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 2011

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

This booklet consists of 8 printed pages including this page.

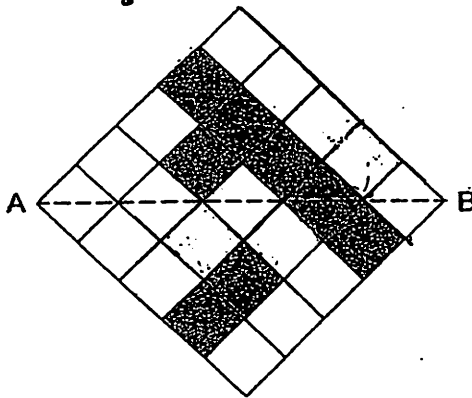
Questions 16 to 25 carry 1 mark each. Write your answers in the spaces provided.
For questions which require units, give your answers in the units stated.

(10 marks)

- 16 Glen is facing west. He turns anti-clockwise to face north-east. What angle does he turn?

Ans: _____°

- 17 In the diagram below, what is the least number of small squares that must be shaded such that line AB is the line of symmetry?



Ans: _____

(Go on to the next page)

- 18 Evaluate $2.99 \div 3$. Round off your answer to 2 decimal places.

Ans: _____

- 19 Amy and John have 56 stamps altogether. The number of stamps that Amy has is $\frac{3}{5}$ of John's stamps. How many more stamps does John have than Amy?

Ans: _____

- 20 $A : B : C = 2 : 5 : 7$ and $B : D = 2 : 3$. What is $A : B : C : D$?

Ans: _____

(Go on to the next page)

- 21 The ratio of the number of boys to the number of girls is 3 : 5. If there are 24 fewer boys, how many children are there in the class?

Ans: _____

- 22 A boutique was having a 20% storewide sale. Mandy bought 2 dresses which originally cost \$80 each. How much savings did Mandy enjoy?

Ans: \$ _____

- 23 \$395 259 was collected during the sale of books at a book fair. Express the amount collected to the nearest ten thousand dollars.

Ans: \$ _____

(Go on to the next page)

- 24 What is the missing number in the box?

$$8 \times 7 + 40 \div \boxed{} = 64$$

Ans: _____

- 25 The average speed of a train is 180 km/h.
How far will it travel in 20 minutes?

Ans: _____ km

(Go on to the next page)

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

(10 marks)

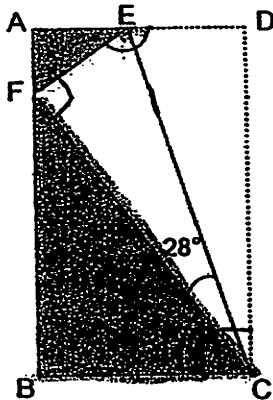
- 26 Sandra and Bridget saved a total of \$ y .
Sandra saved \$5 less than Bridget.
(a) Express the amount Bridget saved in terms of y .
(b) If $y = \$80$, how much did Bridget save?

Ans: a) \$ _____

b) \$ _____

- 27 The following figure is not drawn to scale. ABCD is a rectangle that is folded along CE. Given that $\angle ECF = 28^\circ$, find

- (a) $\angle DEF$
(b) $\angle BCF$.

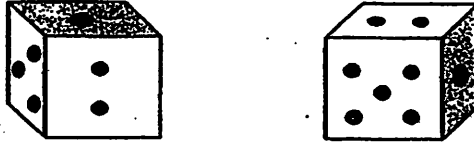


Ans: a) _____^o

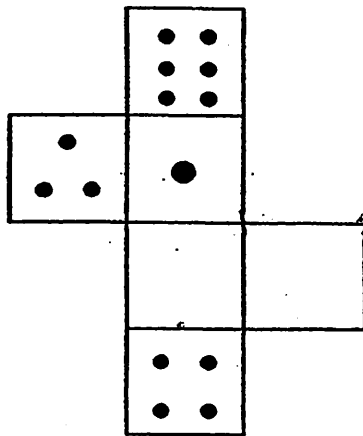
b) _____^o

(Go on to the next page)

- 28 Below are two different views of a cube with six faces.



Based on the two views of the cubes shown, complete the net of the cube below.



- 29 Apples were sold at either 3 for \$1 or 40 cents each.
What is the least amount of money Farah needs to buy 32 apples?

Ans: \$ _____

(Go on to the next page)

- 30 Eliza usually jogs at an average speed of 100 m/min and takes 24 minutes to reach the park.
If she jogs at 20 m/min slower than her usual speed, how much longer will she take to reach the park?

Ans: _____ min

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PRIMARY 6 MID-YEAR EXAMINATION 2011 MATHEMATICS PAPER 2

Duration: 1 h 40 min

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

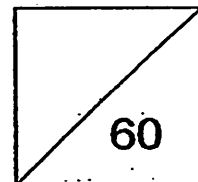
Write your answers in this booklet.

The use of an approved calculator is expected, where appropriate.

Name: _____ ()

Class: Primary 6. _____

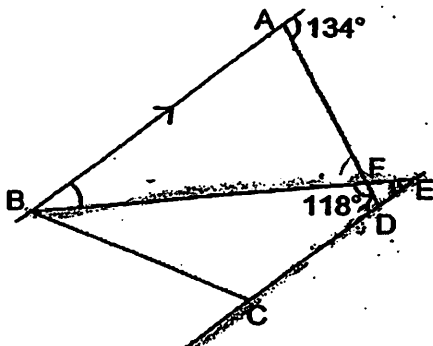
Date: 5 May 2011



This booklet consists of 14 printed pages including this page.

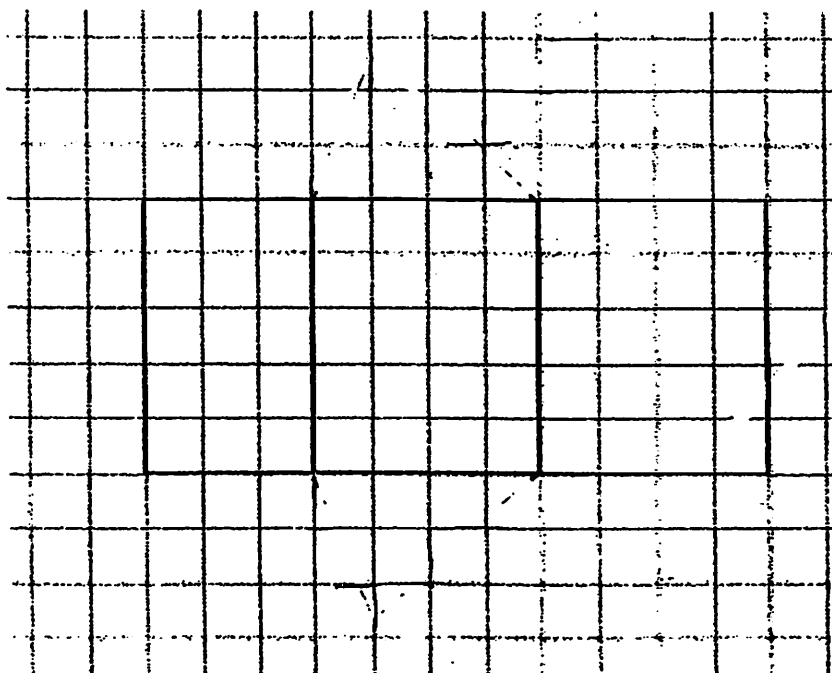
Questions 1 to 5 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

- 1 In the diagram below, not drawn to scale, ABCD is a trapezium. AB is parallel to DC. CE and BE are straight lines. Find $\angle BEC$.



Ans: _____ $^\circ$

- 2 Add 2 more faces to complete the net to form a prism. Make use of the lines given and a ruler.



(Go on to the next page)

- 3 Bernie and Ahmad shared the cost of a meal. Bernie paid \$15. If Bernie paid \$2 less, Ahmad would have had to pay 20% more. What was the cost of the meal?

Ans: \$ _____

- 4 In the figure below, not drawn to scale, A is the centre of the circle. The diameter of the circle is 12 cm. What is the perimeter of the figure shown below? (Take $\pi = 3.14$.)

Ans: _____ cm

(Go on to the next page)

- 5 Irfan and Jason jogged from the school to the swimming pool along the same route. Jason started his journey ten minutes later than Irfan. Irfan jogged 4 km at an average speed of 3 km/h for the whole journey. Both of them arrived at the swimming pool at the same time. What was Jason's average speed?

Ans: _____ km/h

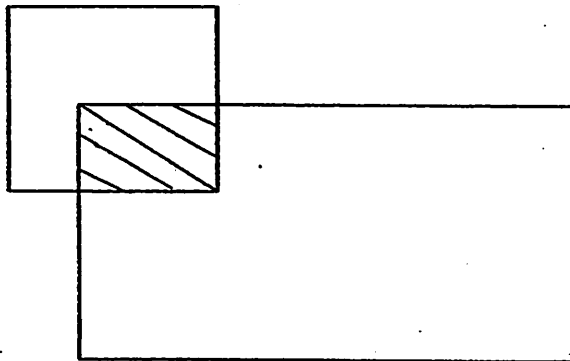
(Go on to the next page)

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)

- 6 $\frac{2}{3}$ of Ali's story books was the same as $\frac{3}{5}$ of Raju's story books.
 (a) Who had more story books?
 (b) If Ali had 100 fewer books, how many books would Ali have?

Ans (a) _____ (1)
 (b) _____ (2)

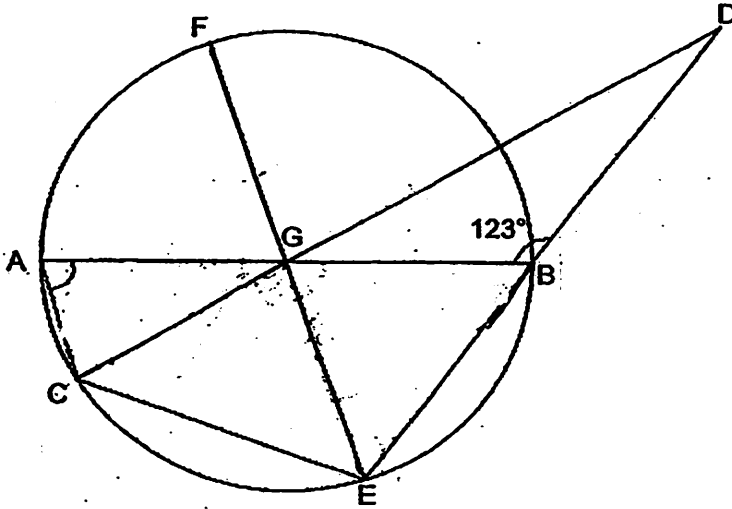
- 7 The figure below, not drawn to scale, shows a square and a rectangle that are overlapping each other.
 The area of the square to the area of the rectangle is 2 : 5.
 The ratio of the area of the square to the area of the shaded part is 5 : 2.
 If the shaded area is 10 cm^2 , find the area of the unshaded part of the figure.



Ans: _____ [3]

(Go on to the next page)

- 8 In the figure below, not drawn to scale, G is the centre of the circle.
 AB, CD, DE, EF are straight lines. $\angle CGE$ is twice the size of $\angle AGC$.
 $\angle ABD = 123^\circ$.
- (a) Name the angle which is the same size as $\angle CAG$.
 (b) Find the value of $\angle CAG$.

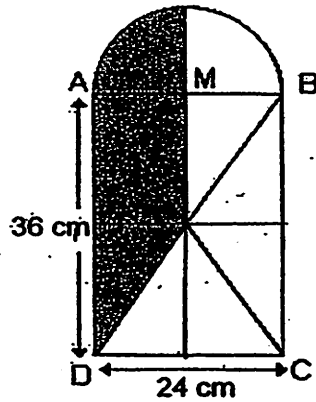


Ans: (a) _____ [1]

(b) _____ [3]

(Go on to the next page)

- 9 The figure below, not drawn to scale, is made up of a semi-circle and a rectangle. M is the mid-point of AB. AC and BD are straight lines. Find the area of the shaded part. (Take $\pi = \frac{22}{7}$)



Ans: _____ [3]

- 10 David bought 120 purple and green pencil cases. Each green pencil case cost \$2.50 and each purple pencil case cost \$1.75 each. If the total cost of the pencil cases was \$246, how many green pencil cases did he buy?

Ans: _____ [3]

(Go on to the next page)

- 11 Melissa had \$28.20 at first. She used that amount of money to buy 3 identical pencils and 5 similar books. If she had used that amount of money to buy 1 pencil and 2 books, she would have received \$17 change.
- (a) What is the cost of 1 pencil?
- (b) What is the maximum number of books she can buy with \$40?

Ans: (a) _____ [3]

(b) _____ [2]

(Go on to the next page)

12 A dining chair costs $\frac{2}{7}$ as much as a dining table.

Mr Lim bought a dining table and 6 dining chairs.
The dining table costs \$ q .

- (a) How much did Mr Lim pay altogether, in terms of q .
(b) If $q = \$700$, how much did Mr Lim pay?

Ans: (a) _____ [2]

(b) _____ [2]

13 ~~20%~~ of the people who attended a party were children. ~~45%~~ of the adults were men.
There were 240 more men than children. How many women were at the party?

Ans: _____ [3]

(Go on to the next page)

- 14 Keith had some toy cars. He lost $\frac{1}{3}$ of his toy cars and his mother bought him another 9 toy cars. The next day, he gave $\frac{1}{5}$ of his toy cars to his best friend and had 75 toy cars left. How many toy cars did Keith have at first?

Ans: _____ [4]

(Go on to the next page)

- 15 Town A and Town B are 760 km apart.
At 9.40 a.m., Gopal set off from Town A to Town B at a constant speed of 80 km/h.
Half an hour later, Haron set off from Town B to Town A at a constant speed which is 10 km/h slower than Gopal's speed.
What time will they meet each other along the way?

Ans: _____ [4]

(Go on to the next page)

- 16 In an amusement park, there were $\frac{3}{8}$ as many girls as boys. After 20 boys left that park and 12 girls entered the park, the ratio of boys to girls became
- (a) How many girls were at the amusement park at first?
(b) How many children were at the amusement park at the end?

Ans: (a) _____ [3]

(b) _____ [2]

(Go on to the next page)

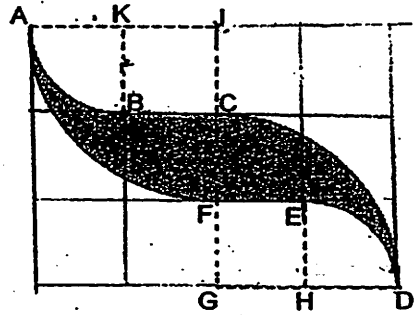
- 17 In an examination, 92% of the candidates passed. 72 of the failures were boys and $\frac{3}{5}$ of the failures were girls. 1380 girls passed the examination.
- (a) What was the total number of pupils who sat for the examination?
- (b) What percentage of the candidates who passed the examination were boys?

Ans: (a) _____ [3]

(b) _____ [2]

(Go on to the next page)

- 18 The figure below is not drawn to scale. $AK = BC = CF = EF = DH = 7$ cm. $BCJK$ and $EFGH$ are identical squares. ABK , AFJ , DEH and CDG are quarter circles. Find the total area of the shaded figure. (Take $\pi = \frac{22}{7}$.)



Ans: _____ [4]

End of Paper

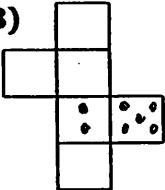
ANSWER SHEET

EXAM PAPER 2011

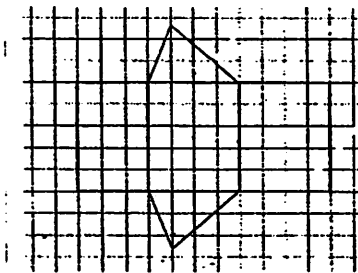
SCHOOL : MGS PRIMARY
SUBJECT : PRIMARY 6 MATHEMATICS

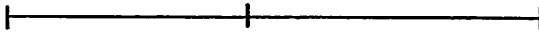
TERM : SA1

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

- 16) 225° 17) 3 18) 1.00 19) 14 20) 4:10:14:15
- 21) 96 22) \$32 23) 400000 24) 5 25) 60km
- 26) a) $\$(y+5/2)$ 27) a) 124° 28)  29) \$10.80 30) 6 min
- b) \$42.50 b) 34°

Paper 2

<p>1) $\angle BAD = 180^\circ - 134^\circ = 46^\circ$ $\angle BFA = 180^\circ - 118^\circ = 62^\circ$ $\angle ABF = 180^\circ - 46^\circ - 62^\circ = 72^\circ$ $\angle BEC = \angle ABF = 72^\circ$</p>	<p>2) </p>
<p>3) 20% → 2 100% → 2 x 5 = 10 10 + 15 = \$25</p>	<p>4) $12 \div 2 = 6$ (r) $6/8 \times 3.14 \times 12 = 28.26$ $28.26 + 6 + 6 = 40.26$cm</p>
<p>5) $4 \div 3 = 1\frac{1}{3}$ $1\frac{1}{3} - 10/60 = 1\frac{1}{6}$ $4 \div 1\frac{1}{6} = 3\frac{3}{7}$km/h</p>	<p>6) a) Raju b) $1/9 \rightarrow 100$ $9/9 \rightarrow 9 \times 100 = 900$</p>

<p>7) $4u \rightarrow 10$ $1u \rightarrow 10 \div 4 = 2.5$ $27u \rightarrow 2.5 \times 7 = 67.5$ The area of the unshaded part is 67.5cm^2</p>	<p>8) a) $\angle GCA$ b) 71°</p>
<p>9) $24 \div 2 = 12$ $\frac{1}{4} \times 22/7 \times 12 \times 12 = 113\frac{1}{7}$ $\frac{1}{2} \times 36 \times 24 = 432$ $432 \div 2 = 216$ $216 \div 2 \times 3 = 324$ $324 + 113\frac{1}{7} = 437\frac{1}{7}\text{cm}^2$ The area is $437\frac{1}{7}\text{cm}^2$</p>	<p>10) 48 green pencil cases</p>
<p>11) cost $3p + 5b \rightarrow 28.20$ $1p + 2b \rightarrow 28.20 - 17 = 11.20$ $2p + 3b \rightarrow 17$ $1p + 1b \rightarrow 17 - 11.20 = 5.80$ $1b \rightarrow 11.20 - 5.80 = 5.40$ a) $1p \rightarrow 5.80 - 5.40 = 0.40$ The cost is \$0.40 b) $40 \div 5.40 = 7\text{R}2.20(\\$)$ She can buy 7 books</p>	<p>12) a) $q \div 7 = q/7$ $q/7 = 19 = 19q/7$ Mr Lim paid $\\$(19q/7)$ b) $700 \div 7 = 100$ $100 \times 19 = 1900$ Mr Lim paid \$1900</p>
<p>13) $4u \rightarrow 240$ $1u \rightarrow 240 \div 4 = 60$ $11u \rightarrow 60 \times 11 = 660$ There were 60 women at the party</p>	<p>14) $\frac{3}{4} \rightarrow 75$ $\frac{1}{4} \rightarrow 25$ $4/4 \rightarrow 100$ $100 - 9 = 91$ $91 \div 7 \times 10 = 130$ Keith had 130 toy cars at first</p>
<p>15) $1h \rightarrow 80 + 70 = 150$ $760 - 40 = 720$ $720 \div 150 = 4 \text{ R } 120(\text{km})$ $120/150 = 4/5$ $44/5h = 4h 48\text{min}$</p> <p>1010h 4h 1410h 48min 1458h</p>  <p>1458h = 2.58p.m. They will meet at 2.58p.m.</p>	<p>16) a) $3u + 12 = 3/7$ $8u - 20$ $7(3u+12) = 3(8u-20)+21u+84$ $= 24u - 60$ $84 + 60 = 24u - 21u$ $144 = 3u$ $3u \rightarrow 144$ $1u \rightarrow 48$ $48 \times 3 = 144$ There were 144 girls b) $48 \times 11 = 528$ $528 + 12 - 20 = 520$ There were 520 children</p>

17)a) $4u \rightarrow 72$

$1u \rightarrow 72 \div 4 = 18$

$125u \rightarrow 125 \times 18 = 2250$

The total number was 2250 pupils.

b) $115u \rightarrow 18 \times 115 = 2070$

$2070 - 1380 = 690$

$690/2070 \times 100\% = 33\frac{1}{3}$

18) $\frac{1}{4} \times \frac{22}{7} \times 7 \times 7 = 38.5$

$7 \times 7 = 49$

$7 + 7 = 14$

$\frac{1}{4} \times \frac{22}{7} \times 14 \times 14 = 154$

$154 - 38.5 - 49 = 66.5$

$66.5 \times 2 = 133$

The total area is 133cm²