

METHODIST GIRLS' SCHOOL (PRIMARY)
Founded in 1887



MID-YEAR EXAMINATION 2012
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: 9 May 2012

This booklet consists of 7 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 Find the value of $28 + 4 \times 6 - 32 \div 4$.

- (1) 5
- (2) 40
- (3) 44
- (4) 184

2 Which of the following has the same value as 5.108 kg?

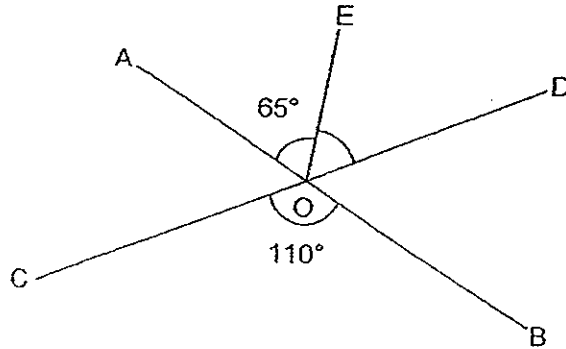
- (1) 4 kg + 180 g
- (2) 3 kg + 2 108 g
- (3) 4 kg + 1 080 g
- (4) 3 kg + 2 180 g

3 Find the value of $2 \times 10b - 9b \div 3$ when $b = 6$.

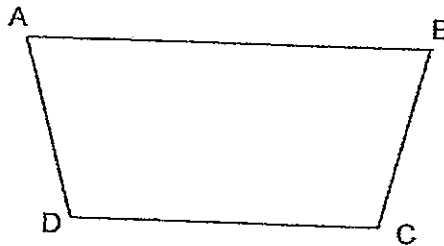
- (1) 102
- (2) 22
- (3) 14
- (4) 4

(Go on to the next page)

- The figure below is not drawn to scale. AB and CD are straight lines.
4 $\angle AOE = 65^\circ$ and $\angle COB = 110^\circ$. Find $\angle DOE$.



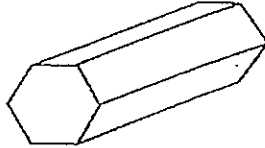
- (1) 25°
(2) 45°
(3) 55°
(4) 70°
- 5 ABCD is a trapezium. Which of the following statements is correct?



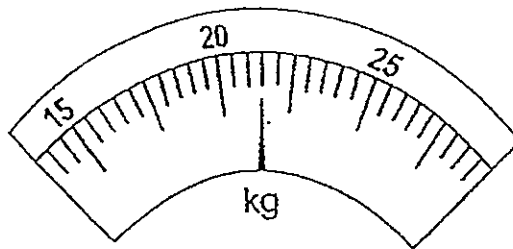
- (1) $\angle BAD + \angle ABC = 180^\circ$
(2) $\angle BAD + \angle ADC = 180^\circ$
(3) $\angle ABC + \angle ADC = 180^\circ$
(4) $\angle BAD + \angle BCD = 180^\circ$

(Go on to the next page)

- 6 How many faces does the solid below have?



- (1) 6
(2) 7
(3) 8
(4) 9
- 7 What is the reading indicated on the weighing scale below?

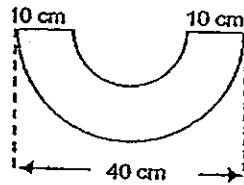


- (1) 20.1 kg
(2) 20.3 kg
(3) 21.5 kg
(4) 23.0 kg
- 8 If $a : b = 1 : 3$ and $b : c = 2 : 5$, what is $a : c$?

- (1) 1 : 2
(2) 1 : 5
(3) 2 : 15
(4) 6 : 15

(Go on to the next page)

- 9 60% of a number is 30. The number is _____.
- (1) 12
(2) 18
(3) 50
(4) 200
- 10 A Formula 1 sports car can travel 300 km/h. How many metres can the car travel in 15 minutes?
- (1) 2 000 m
(2) 7 500 m
(3) 20 000 m
(4) 75 000 m
- 11 The figure below is made up of 2 semi-circles. Find the perimeter of the figure. (Take $\pi = 3.14$)

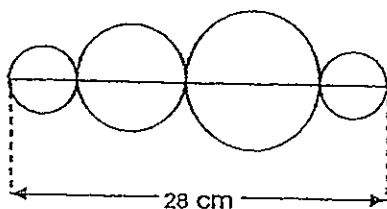


- (1) 94.2 cm
(2) 114.2 cm
(3) 188.4 cm
(4) 208.4 cm

(Go on to the next page)

- 12 A piece of wire was bent to form the following figure. In the figure, there are 4 circles and a line AB. 4 cm of the wire was left over.

Find the length of the wire. (Take $\pi = \frac{22}{7}$)



- (1) 88 cm
 (2) 92 cm
 (3) 116 cm
 (4) 120 cm
- 13 Mrs Lee bought 3 kg of flour. She used 900 g of it. What fraction of the flour had she left?
- (1) $\frac{1}{3}$
 (2) $\frac{2}{3}$
 (3) $\frac{3}{10}$
 (4) $\frac{7}{10}$
- 14 The ratio of Kimberly's mass to Jane's mass is 5:6. If Kimberly's mass is increased by 7 kg and Jane's mass is decreased by 1 kg, they will be of the same mass. What is Kimberly's mass?
- (1) 40 kg
 (2) 46 kg
 (3) 47 kg
 (4) 48 kg

(Go on to the next page)

- 15 A shopkeeper usually buys his goods at a certain price. He usually sells them at 30% above the price he bought it for. During a sale, he gave a discount of \$15 off the selling price. If he received \$128, what was the original price of the goods?

- (1) \$77
- (2) \$79
- (3) \$87
- (4) \$110

End of Booklet A

METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887



MID-YEAR EXAMINATION 2012 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: 9 May 2012

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

This booklet consists of 7 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 Write 2 thousands, 260 tens, 16 tenths and 150 thousandths in numerals.

Ans: _____

- 17 Two consecutive even numbers add up to 570. Find the bigger number.

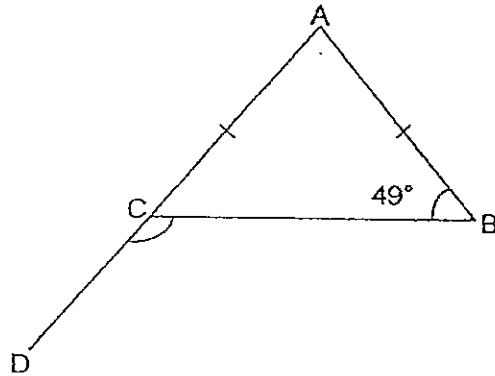
Ans: _____

- 18 A car travelled 32 km at 96 km/h and another 20 km at 60 km/h.
What was the average speed of the car for the whole journey?

Ans: _____ km/h

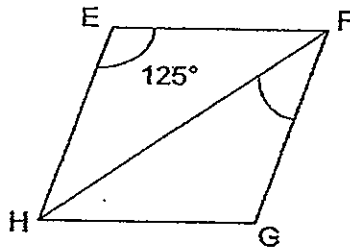
(Go on to the next page)

- 19 In the figure below, not drawn to scale, AD is a straight line and $\angle ABC = 49^\circ$. Find $\angle BCD$.



Ans: _____°

- 20 In the figure below, not drawn to scale, EFGH is a rhombus and $\angle FEH = 125^\circ$. Find $\angle HFG$.



Ans: _____°

(Go on to the next page)

21 Express 10 g as a ratio of 0.15 kg.

Ans: _____

22 Jimmy arranged 26 stickers on each page of his sticker album. If he had 789 stickers, how many pages of his sticker album did he use?

Ans: _____

23 Arrange the following fractions in descending order.

Ans: _____

(Go on to the next page)

- 24 Jarred has 440 marbles. For every 5 green marbles he has, there are 6 yellow marbles. How many yellow marbles does he have?

Ans: _____

- 25 Cathy saved 40% less than Diana. Diana saved 60% less than Eileen. Express Cathy's savings as a percentage of Eileen's savings.

Ans: _____%

(Go on to the next page)

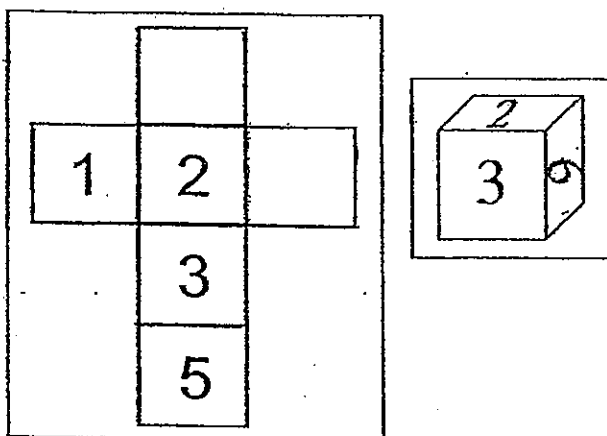
Questions 26 to 30 carry 2 marks each. Show your working clearly in the space below each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

(10 marks)

- 26 The mass of a bottle half-filled with water is 1.5 kg. The mass of the bottle when it is $\frac{1}{6}$ - filled with water is 900 g. Find the mass of the bottle when it is $\frac{2}{3}$ - filled with water.

Ans: _____ kg

- 27 The diagram below shows the net of a die. Fill in the missing numbers on the die.



- 28 $8b \times 3 = 72$
Find the value of b .

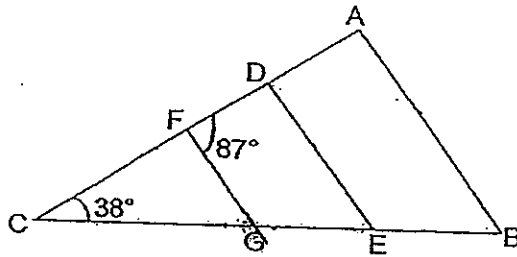
Ans: _____

(Go on to the next page)

- 29 Mani walks 1 800 m to school every day. The journey takes 40 min. What is Mani's walking speed?

Ans: _____ km/h.

- 30 In the figure, not drawn to scale, AB, DE and FG are parallel lines. $\angle ACB = 38^\circ$ and $\angle AFG = 87^\circ$. Find the $\angle CED$.



Ans: _____°

End of Paper



METHODIST GIRLS' SCHOOL (PRIMARY)
Founded in 1887



MID-YEAR EXAMINATION 2012
PRIMARY 6
MATHEMATICS

PAPER 2

Duration: 1h 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.

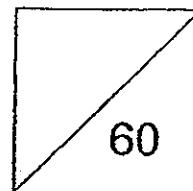
Write your answers in this booklet.

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

Name: _____ ()

Class: Primary 6. _____

Date: 9 May 2012



This booklet consists of 15 printed pages including this page.

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

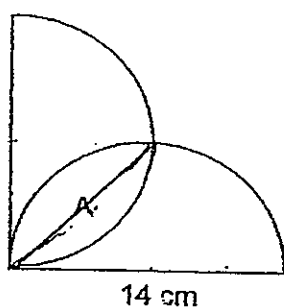
(10 marks)

- 1 25% of a number is 70 less than 60% of the same number. What is the number?

Ans: _____

- 2 The figure shows 2 identical semi-circles with a diameter of 14 cm.

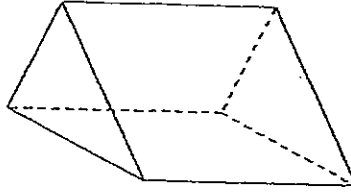
Find the area of A. (Take $\pi = \frac{22}{7}$)



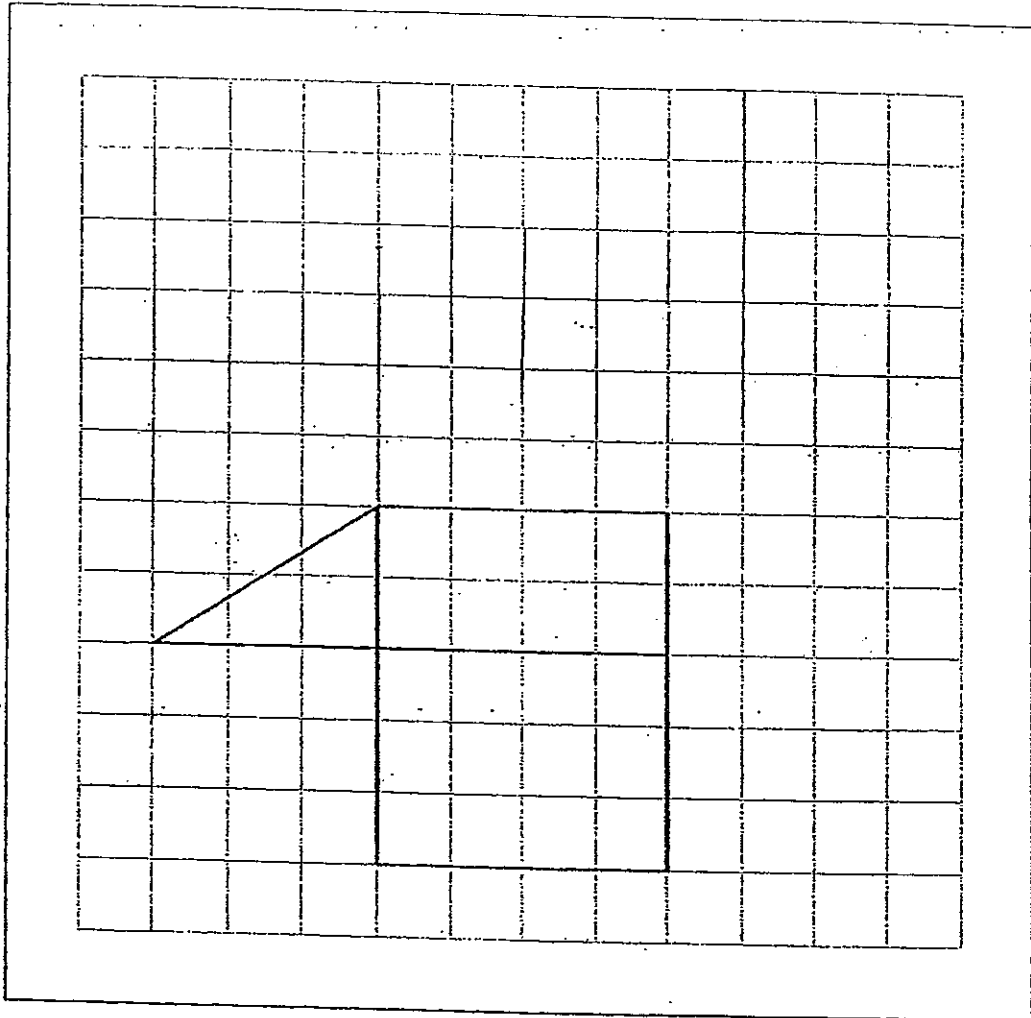
Ans: _____ cm²

(Go on to the next page)

- 3 This figure shows a solid.

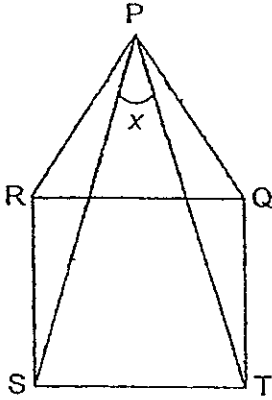


Complete the net of the solid by drawing in two of the missing shapes in the figure below.



(Go on to the next page)

- 4 In the figure below, not drawn to scale, PQR is an equilateral triangle and QRST is a square. Find $\angle x$.



Ans: _____

- 5 Mui Lin and Azrina drove separately from the cinema to a shopping mall.
Mui Lin travelled at an average speed of 80 km/h and arrived at the mall in 20 min.
If Azrina drove at an average speed of 100 km/h, how long will she take to reach the shopping mall.

Ans: _____ min

(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 Ming, Ali and Raj have 32 robots altogether.
If Ming gives 3 of his robots to Ali and Raj, he would have 2 more than what Ali and Raj have together.
How many robots does Ming have?

Ans: _____ [3m]

- 7 Rachel has 4y sweets. Siti has two times as many sweets as Rachel and Tina has 10 more sweets than Siti.

- (a) How many sweets does Tina have?
(b) They shared the sweets equally. How many sweets did Rachel get?

Ans: (a) _____ [1m]

(b) _____ [2m]

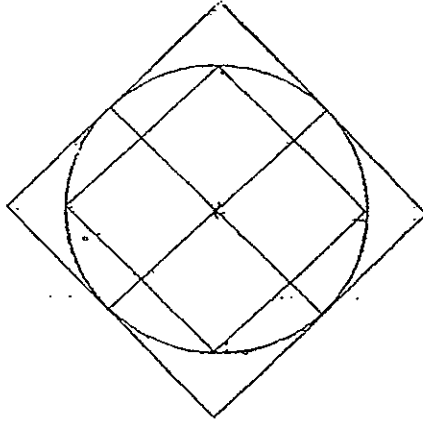
(Go on to the next page)

- 8 Kalli cycles to school every day. If he cycles at a speed of 11 km/h, he would reach school at 6.50 a.m.
If he cycles at 9 km/h, he would reach school 20 minutes later.
What should his average cycling speed be if he wants to arrive in school at 7.00 a.m?
Give your answer correct to 1 decimal place.

Ans: _____ [4m]

(Go on to the next page)

- 9 The figure below is made of 2 squares and a circle.
The radius of the circle is 14 m. Find the total area of the shaded parts of the figure.
Round off your answer to the nearest whole number. (Take $\pi = 3.14$)



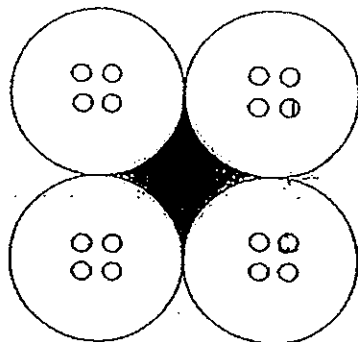
Ans: _____ [4m]

(Go on to the next page)

- 10 The figure below shows 4 identical circular buttons.
Each button has a radius of 1.4 cm.

- (a) Find the perimeter of shaded part that is enclosed by the buttons.
(b) Find the area of the shaded part.

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



Ans: (a) _____ [1m]

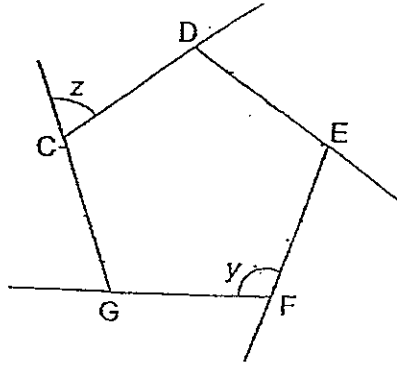
(b) _____ [2m]

(Go on to the next page)

- 11 In the figure below, not drawn to scale, CDEFG is a polygon in which $CD = DE = EF = FG = GC$

(a) Find $\angle y$

(b) Find $\angle z$



Ans: (a) _____ [2m]

(b) _____ [2m]

(Go on to the next page)

- 12 Sarah and Elizabeth went to the shopping mall. Sarah bought 4 blouses at \$12.10 each and some pens. Elizabeth bought 2.5 kg of biscuits at \$1.50 per kg.
- (a) How much did they spend on the blouses and biscuits?
- (b) How much did they pay for the pens if they paid cashier \$60 and received \$4.85 change?

Ans: (a) _____ [2m]

(b) _____ [2m]

(Go on to the next page)

- 13 Mrs Tan baked 120 buns. $\frac{3}{5}$ of the buns were chocolate buns. The rest were strawberry buns. She gave an equal number of chocolate buns and strawberry buns away and had 7 times as many chocolate buns as strawberry buns left. How many buns did she give away?

Ans: _____ [4m]

(Go on to the next page)

- 14 Audrey and Betty have some money. If Audrey spends \$3, the ratio of the amount of money Audrey has to the amount of money Betty has is 2 : 5. If Betty spends \$3, the ratio will become 8 : 13. How much money does Audrey have?

Ans: _____ [3m]

- 15 A swimming club has 30 girls and a number of boys. The number of boys increased by 15% to 46 and the number of girls decreased by 30%. What is the overall increase or decrease in the club's membership?

Ans: _____ [3m]

(Go on to the next page)

16 In 2011, Mr. Tan's monthly salary was \$2 200 for the first 8 months. His monthly salary was increased by 20% for the rest of the year. His total income for 2011 was 10% more than his total income in 2010.

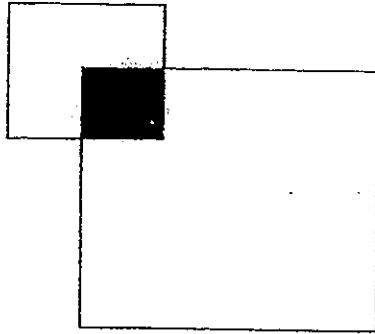
- (a) Find his total income in 2011.
- (b) Find his total income in 2010.

Ans: (a) _____ [3m]

(b) _____ [2m]

(Go on to the next page)

- 17 The figure is made up of 2 overlapping squares to form a third square, which is shaded.
The ratio of the unshaded area of the smaller square to the unshaded area of the larger square is 3 : 7.
The ratio of the shaded area to the total unshaded area is 1 : 50.
Given that the shaded area is 4 cm^2 , find the ratio of the perimeter of the smaller square to that of the larger square



Ans: _____ [5m]

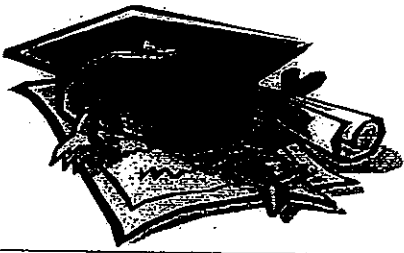
(Go on to the next page)

- 18 Milly sat for a Mathematics quiz. There were a total of 35 questions.
For each question she answered correctly, 3 points were awarded.
For each question she answered wrongly, 2 points were deducted.
For each question she left blank, 1 point was deducted.
If Milly did not answer 5 questions and scored a total of 70 points, how many questions did Milly answer correctly?

Ans: _____ [5m]

End of Paper





ANSWER SHEET

EXAM PAPER 2012

SCHOOL : MGS
SUBJECT : PRIMARY 6 MATHEMATICS

TERM : SA1

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

16)4601.750 17)286 18)78km/h 19)131° 20)27.5°

21)1:15 22)31 23)2/5, 2/7, 1/6, 1/8 24)240 25)24%

26)1.8kg 27)4, 6 28)3 29)2.7km/h 30)49°

Paper 2

1) $60 - 25 = 35$

$35\% \rightarrow 70$

$1\% \rightarrow 70 \div 35 = 2$

$100\% \rightarrow 2 \times 100 = 200$

The number is 200

2) $14 \div 2 = 7$

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

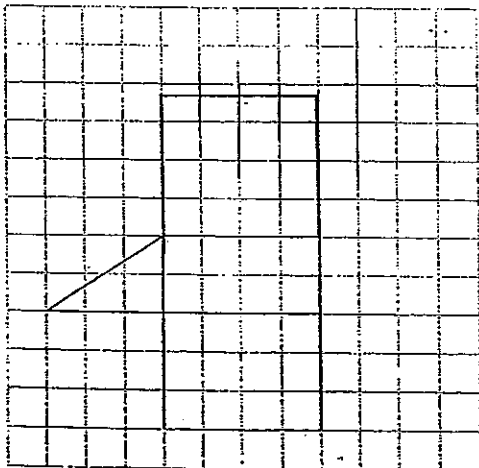
$7 \times 7 = 49$

$49 - 38.5 = 10.5$

$38.5 - 10.5 = 28$

The area is 28cm²

3)



4) $\angle PRS = 90^\circ + 60^\circ = 150^\circ$
 $\angle RSP = (180^\circ - 150^\circ) \div 2 = 15^\circ$
 $15 \times 2 = 30$
 $\angle x = 60^\circ - 30^\circ = 30^\circ$
 $\angle x$ is 30°

5) $20 \text{ min} = \frac{1}{3} \text{ h}$
 $80 \times \frac{1}{3} = 26\frac{2}{3}$
 $26\frac{2}{3} \div 100 = \frac{4}{15}$
 $\frac{4}{15} \text{ h} = 16 \text{ min}$
 She will take 16 min

6) $32 - 2 = 30$
 2 units \rightarrow 30
 1 unit \rightarrow 15
 $15 + 2 = 17$
 $17 + 3 = 20$
 Ming has 20 robots

7) a) $4y + 4y + 10 = 8y + 10$
 Tina has $(8y + 10)$ sweets
 b) $4y + 4y + 4y + 4y + 4y + 10 = 20y + 10$
 $= 20y + 10$
 $\frac{20y + 10}{3}$

Rachel will get $\frac{(20y + 10)}{3}$ sweets

8)	S1	S2
	Speed 11	9
	X.	
	Time 9	11
	Distance	16.5

$11 - 9 = 2$
 $2u \rightarrow 20 \text{ min}$
 $1u \rightarrow 10 \text{ min}$
 $9u \rightarrow 90 \text{ min}$
 Distance $\rightarrow 90/60 \times 11 = 16.50$
 $10 \text{ units} \rightarrow 100 \text{ min}$
 $16.50 \div 100/60 \approx 9.9 \text{ km/h}$

9) $3.14 \times 14 \times 14 = 615.44$

$14 \div 2 = 7$

$\frac{1}{2} \times 7 \times 14 = 49$

$49 \times 8 = 392$ (area of shaded square)

$14 \times 2 = 28$

$28 \times 28 = 784$

$784 - 615.44 = 168.56$ (area of shaded outside circle)

$168.56 + 392 = 560.56$

$560.56 \approx 561$

The area is 561m^2

10)a) $1.4 \times 2 = 2.8$

$\frac{1}{4} \times 22/7 \times 2.8 = 2.2$

$2.2 \times 4 = 8.8$

The perimeter is 8.8cm

b) $2.8 \times 2.8 = 7.84$

$22/7 \times 1.4 \times 1.4 = 6.16$

$7.84 - 6.16 = 1.68$

The area is 1.68cm^2

11)a) $(5 - 2) \times 180^\circ = 540^\circ$

$\angle y = 540^\circ \div 5 = 108^\circ$

b) $\angle z = 180^\circ - 108^\circ = 72^\circ$

12)a) $1\text{kg} \rightarrow 1.50$

$2\text{kg} \rightarrow 3$

$\frac{1}{2}\text{kg} \rightarrow 1.5 \div 2 = 0.75$

$3 + 0.75 = 3.75$ (biscuits)

$12.10 \times 4 = 48.4$

$48.4 + 3.75 = 52.15$

They spent $\$52.15$

b) $60 - 4.85 = 55.15$

$55.15 - 52.15 = 3$

They paid $\$3$ for the pens

13) She gave away 88 buns.

14) 2 units \rightarrow 3
1 unit \rightarrow 1.5
8 units \rightarrow $1.5 \times 8 = 12$
Audrey has \$12

15) $30 \times \frac{6}{20} = 9$ (girls left)
115% of B \rightarrow 46
100% of B \rightarrow $\frac{46}{115} \times 100 = 40$
 $46 - 40 = 6$ (Boys joined)
 $9 - 6 = 3$
The decrease is by 3 people

16) a) 100% \rightarrow 2200
120% \rightarrow $\frac{2200}{100} \times 120 = 2640$
 $2640 \times 4 = 10560$ (4 months)
 $2200 \times 8 = 17600$ (8 months)
 $17600 + 10560 = 28160$
His total is \$28160 for 2011
b) 10% \rightarrow $28160 \div 11 = 2560$
100% \rightarrow $2560 \times 10 = 25600$
His total is \$25600 for 2010

17) 1 unit \rightarrow 4
16 units \rightarrow $4 \times 16 = 64$
36 units \rightarrow $4 \times 36 = 144$
 $? \times ? = 144$
 $? \times ? = 64$
 $\sqrt{64} = 12$
 $\sqrt{144} = 12$
 $8 \times 4 = 32$
 $12 \times 4 = 48$
32 : 48
2 : 3

The ratio is 2:3

18) $35 - 3 = 30$
 $30 \times 3 = 90$
 $90 - 5 = 85$
 $85 - 70 = 15$
 $15 \div (2+3) = 3$
 $30 - 3 = 27$