METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887

PRIMARY 6 MID-YEAR EXAMINATION 2010
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: 6 May 2010

6033

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)

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1. Find the value of $8 + (14 + 8 \div 2) \times 4 - 3$.

   (1) 49
   (2) 57
   (3) 73
   (4) 77

2. Devi bought 3 pencil cases and 2 pens for \$42.
   Each pencil case cost 4 times as much as a pen.
   Find the total cost of 1 pencil case and 1 pen.

   (1) \$15
   (2) \$12
   (3) \$ 3
   (4) \$ 6

3. Apples are sold at 3 for 75¢ at a supermarket. Mrs Tan bought n apples and gave the cashier \$20. How much change did she get?
   Express your answer in terms of n.

   (1) \$ $75n$
   (2) \$ $(20 - 25n)$
   (3) \$ $(20 - 75n)$
   (4) \$ $(20 - 0.25n)$

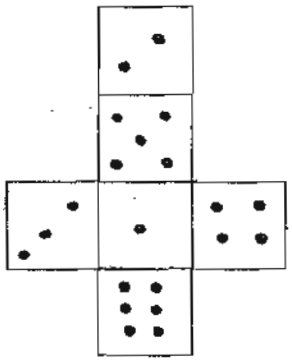
4. What is the missing number in the box below?

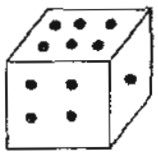
   $74.5 \div \square = 0.149$

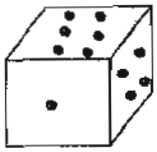
   (1) 5
   (2) 50
   (3) 500
   (4) 5000

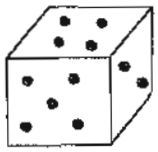
(Go on to the next page)

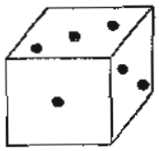
5. The net below can be folded into a cube. Which of the cubes below is folded from the given net below?



(1)


(2)


(3)


(4)


6. Find the area of a semi-circle with a diameter of 14 cm. (Take $\pi = \frac{22}{7}$)

(1) 77 cm^2
(2) 154 cm^2
(3) 308 cm^2
(4) 616 cm^2

(Go on to the next page)

7. The table below shows the amount of money Mary had in her savings account from January to March.

Month	January	February	March
Savings	$ 400	$ 250	$300

What was the percentage decrease in Mary's savings from January to March?

(1) 25 %

(2) $33\frac{1}{3}$ %

(3) $37\frac{1}{2}$ %

(4) 60 %

8. If X : Y = 4 : 3 and Y : Z = 2 : 9, what fraction of Z is X ?

(1) $\frac{4}{9}$

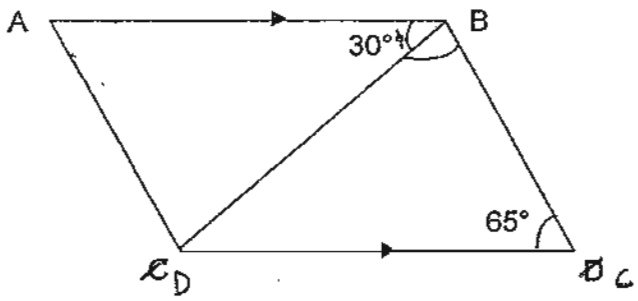
(2) $\frac{9}{4}$

(3) $\frac{8}{27}$

(4) $\frac{27}{8}$

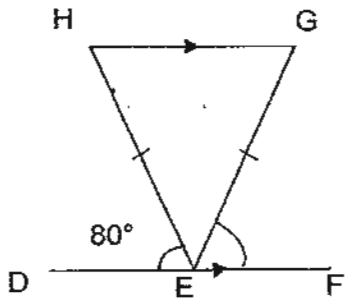
(Go on to the next page)

9. The figure below is not drawn to scale.
ABCD is a parallelogram.
$\angle BCD = 65°$ and $\angle ABD = 30°$.
Find $\angle DBC$.



(1) 35°
(2) 85°
(3) 95°
(4) 115°

10. The figure below is not drawn to scale.
DEF is a straight line and EGH is an isosceles triangle.
If $\angle DEH = 80°$, find $\angle GEF$.



(1) 20°
(2) 80°
(3) 100°
(4) 160°

(Go on to the next page)

11. Jack gave half of his cake to Ahmad, Benjamin and Caden in the ratio 3:2:1 respectively. What was the fraction of the cake that Ahmad received?

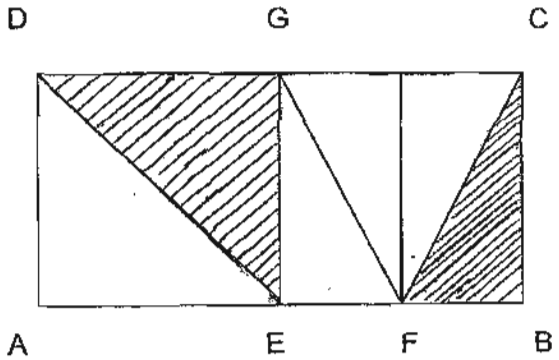
(1) $\frac{1}{6}$

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

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

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

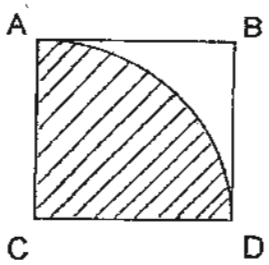
12. ABCD is a rectangle. AE = EB and EF = FB.
What percentage of the figure is shaded?



(1) 25 %
(2) 37.5 %
(3) 62.5 %
(4) 75 %

(Go on to the next page)

13.



The area of the square ABCD is 49 cm^2. Find the perimeter of the quadrant.
(Take $\pi = \frac{22}{7}$)

(1) 11 cm
(2) 18 cm
(3) 25 cm
(4) 58 cm

14. The average speed of a sports car is 30 km/h faster than that of a motorcycle. Both vehicles left Town P at 8.15 a.m. What was the difference in distance between the 2 vehicles at 12.45 p.m?

(1) 120 km
(2) 129 km
(3) 135 km
(4) 150 km

15. The ratio of the amount of money James had to the amount of money Peter had was 1 : 2 at first. After Peter had spent $\frac{1}{2}$ of his money and James had spent \$60, Peter had twice as much money as James. How much money did Peter have at first?

(1) \$ 60
(2) \$ 120
(3) \$ 180
(4) \$ 240

(Go on to Booklet B)

METHODIST GIRLS' SCHOOL (PRIMARY)

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PRIMARY 6 MID-YEAR EXAMINATION 2010
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: 6 May 2010

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

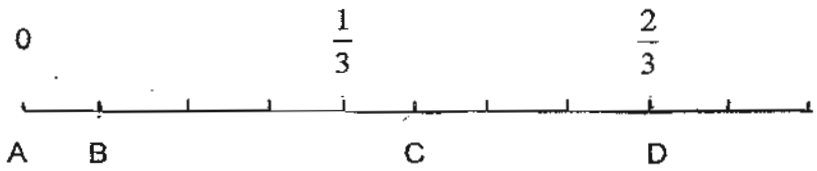
This booklet consists of 6 printed pages including this page.

8

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.



In the number line above, how much longer is BD than BC ?

Ans: _____

17. Complete the following number pattern :

100 , 121 , 144 , _____ , _____ , 225 , 256

Ans: _____ , _____

18. Mary had three times as much money as her brother at first. After her father had given her $25 and her brother $35, Mary had twice as much money as her brother. How much money did Mary have at first?

Ans: $_____

(Go on to the next page)

19. Jenny gave 20% of her salary to her mother. Her mother spent 45% of the sum she was given. What percentage of Jenny's salary had her mother left?

Ans: _____ %

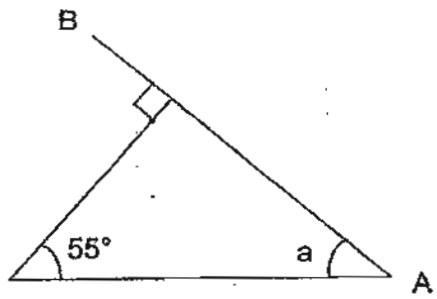
20. Express 45 ¢ as a ratio of $ 2.70 .

Ans: _____

21. Jamie ran at a speed of 15 km/h for 50 minutes. How far did she run? Give your answer as a mixed number in its simplest form.

Ans: _____ km

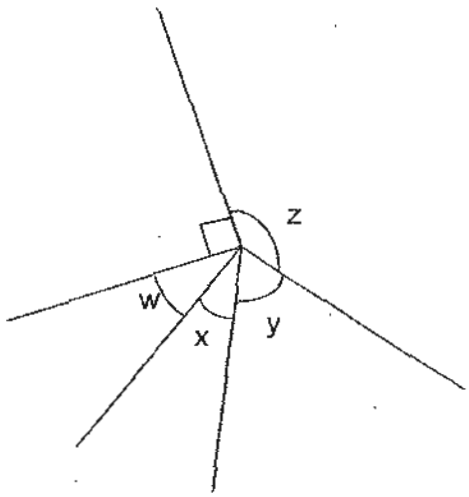
22. The figure below is not drawn to scale. AB is a straight line. Find ∠a.



Ans: _____ °

(Go on to the next page)

23. $\angle w$, $\angle x$, $\angle y$ and $\angle z$ are in the ratio 1:1:2:5. Find $\angle z$.



Ans: _____°

24. Tara had 240 cards and Benny had 360 cards at first. After selling an equal number of cards, the number of cards Tara had left to the number of cards Benny had left was in the ratio 1 : 3 .
How many cards did each of them sell ?

Ans: _____

25. The perimeter of a rectangle is 196 cm. The ratio of its length to its breadth is 5:2. What is the length of the rectangle?

Ans: _____cm

(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 each questions which require units, give your answers in the units stated.

(10 marks)

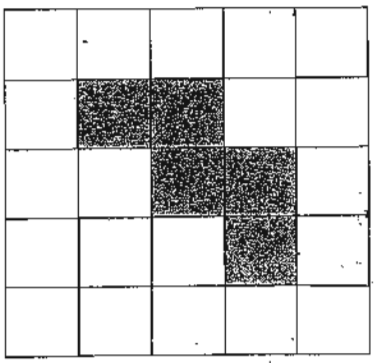
26. Nora saves 80 pieces of \$2 and \$10 notes. Her total savings is \$400. How many ten-dollar notes does Nora have?

Ans: _____

27. Mr Sam buys some pens at \$5m per dozen. He sells them at $\$\frac{1}{2}m$ each. Find his total profit if he sells 36 pens.

Ans: \$_____

28. The shaded figure below shows the net of an open box. Shade a square to give a lid to the box.

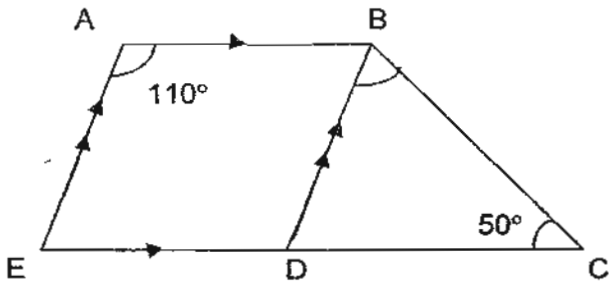


(Go on to the next page)

29. Bala needs to cycle 12 km from his home to the public library in half an hour. At what speed should he travel?

Ans: _____ km/h

30. The figure below is not drawn to scale. ABDE is a rhombus and CDE is a straight line. If $\angle BAE = 110°$ and $\angle BCD = 50°$, find $\angle DBC$.



Ans: _____ °

End of Paper

METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887

PRIMARY 6 MID-YEAR EXAMINATION 2010
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: 6 May 2010

60

This booklet consists of 12 printed pages including this page.

14

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

(10 marks)

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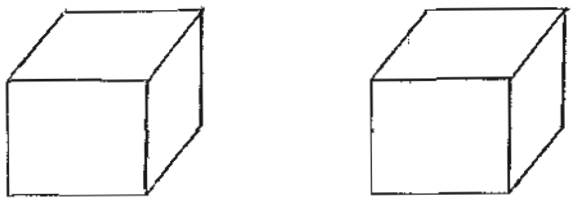
1. The diagrams below show two different orientations of the same cube. The letters on the faces of the cube are H, A, B, E, T and S.



(a) Name the letter on the face which is opposite to the face marked B?

(b) Name the letter on the face which is opposite to the face marked S?

Ans: (a) _____

(b) _____

2. Adam and Eve each have some magazines. 40% of the number of magazines Adam has is equal to 20% of the number of magazines Eve has. If Eve has 20 more magazines than Adam, how many magazines does Eve have?

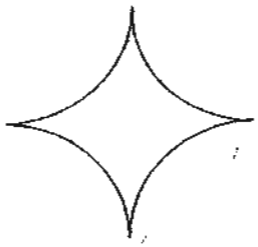
Ans: _____

(Go on to the next page)

3. Tap A can fill up a tank in 4 minutes while Tap B can fill up the same tank in 6 minutes. How long will it take both taps to fill up the tank?

Ans: _____min

4. A wire is bent to form 4 identical circular arcs shown below.
Given that the radius of each arc is 5 cm, find the length of the wire.
(Take $\pi = 3.14$)



Ans: _____cm

5. Draw a rhombus STUV such that $\angle STU = 115°$.
What is the length of SU?

S _____ T

Ans: _____ cm

(Go on to the next page)

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

(50 marks)

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6. Adrian and John saved \$880 altogether. $\frac{1}{4}$ of Adrian's saving is \$40 more than $\frac{1}{5}$ of John's savings. What is John's saving?

Ans: _____ [3]

7. The usual selling price of a bottle of vitamins is \$63. During the Great Singapore Sale, for every 2 bottles bought, the second bottle can be purchased at a 50% discount. Mrs Lee paid \$567 for the vitamins during the sale. How many bottles of vitamins did she buy?

Ans: _____ [3]

(Go on to the next page)

8. The mass of a book and a bag is 7 kg altogether.
The mass of the same book and a box is 11 kg.
The mass of the bag and the box is 14 kg.
Find the mass of the box.

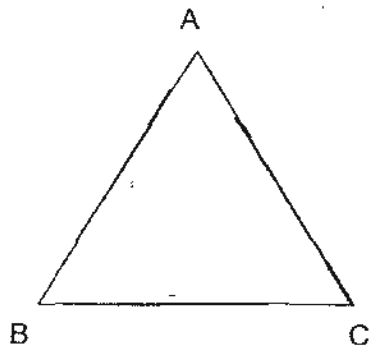
Ans: _____ [3]

9. Alina and Adeline had some stickers in the ratio 3 : 5. When Alina bought 42 more stickers and Adeline bought 7 more stickers, the ratio became 6 : 7.
Find the number of stickers Alina had at first.

Ans: _____ [3]

(Go on to the next page)

10. Triangle ABC is an equilateral triangle of sides 30 cm and an area of 390 cm^2. Find the area of the unshaded part of the figure. (Take $\pi = 3.14$)



Ans: _____[3]

11. Super Laundry charges the following rates for its laundry service.

First 5 shirts	\$ x each
Every additional shirt	\$ 1

(a) How much will it cost Mrs Tan to wash 14 shirts?

(b) How much change would Mrs Tan get if she gives the cashier 2 fifty-dollar notes?

Ans: (a)_____[2]

(b)_____[2]

(Go on to the next page)

12. John's age is $\frac{1}{8}$ of his father's age now. His father will be 36 years old in 4 years' time.

How old will John be when he is $\frac{3}{5}$ of his father's age?

Ans: _____ [4]

13. At 10.00 a.m., Mandy set off from Town X to Town Y at a constant speed of 70 km/h. At the same time, Nora drove off from Town Y to Town X.
After some time, they drove past each other. Later at 1 p.m., they were 40 km apart. Mandy reached Town Y at 3 p.m.

(a) How far from Town Y was Nora at 1 p.m.?

(b) What time did Nora reach Town X?

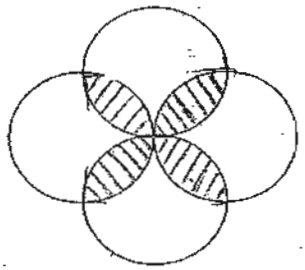
Ans: (a) _____ [2]

(b) _____ [2]

(Go on to the next page)

14. The figure is made up of 4 identical circles with a diameter of 14 cm.

Find the area of the shaded region. (Take $\pi = 3.14$)



Ans: _____ [4]

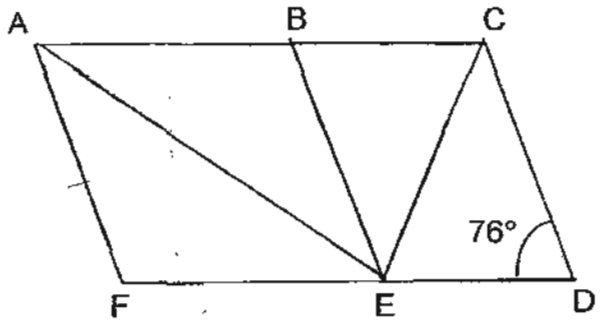
Go on to the next page)

15. The figure below is not drawn to scale. ABEF is a rhombus and BCDE is a parallelogram. ABC and DEF are straight lines. $\angle CDE = 76°$ and $\angle BED - \angle AEC = 27°$.

Find

(a) $\angle FAE$

(b) $\angle BEC$



Ans: (a) _____ [2]

(b) _____ [2]

(Go on to the next page)

16. Ronnie and Rachel were each given some money.
If Ronnie spent thrice as much as Rachel, he would still have $450 when Rachel had spent all her money.
If Ronnie spent $\frac{1}{3}$ of what Rachel had spent, he would have $690 when Rachel had spent all her money.

a) How much money was Ronnie given?

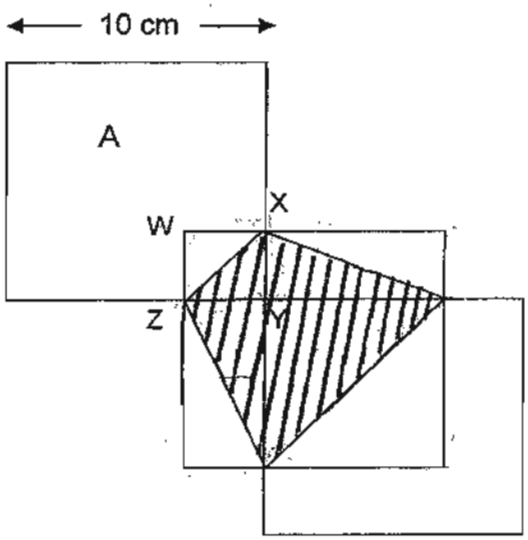
b) How much money was Rachel given?

Ans: (a)_____[3]

(b)_____[2]

(Go on to the next page)

17. The figure below is made up of 3 identical squares of sides 10 cm, overlapping each other. 4.5% of A is shaded. WXYZ is a square.
Find the total area of the shaded part.



Ans: _____ [5]

(Go on to the next page)

18. Jug X and Jug Y contain different amounts of water at first. 50% of the water in Jug X was poured into Jug Y. Then 40% of the water in Jug Y was poured into Jug X. The final ratio of the amount of water in Jug X to the amount of water in Jug Y was 7 : 6.

(a) What was the ratio of the amount of water in Jug X to the amount of water in Jug Y at first?

(b) If there were 10 litres of water in Jug X at first, how much water was there in Jug X at the end ?

Ans: (a) _____ [3]

(b) _____ [2]

End of Paper

ANSWER SHEET

EXAM PAPER 2010

SCHOOL : MGS PRIMARY
SUBJECT : PRIMARY 6 MATHEMATICS

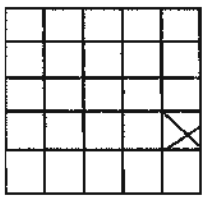
TERM : SA1

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

16) ¼ 17)169,196 18)$135 19)11% 20)1:6

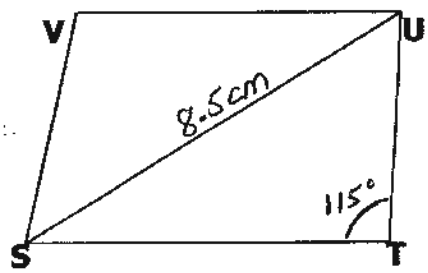
21)12½km 22)35° 23)150° 24)180 cards 25)70cm

26)30 ten-dollar notes 27)$(3m) 28)



29)24 km/h 30)60°

Paper 2

1)a)The letter is E. **b)The letter is A.**	**2)20u→5u** **20÷5=4→1u** **4 x 10=40** **Eve has 40 magazines.**
3)A/1 min→ ¼ of tank **B/ 1 min→1/6 of tank** **¼ + 1/6 = 5/12** **1÷5/12 = 2.4 min**	**4)31.4÷4=7.85** **7.85 x 4=31.4cm**
5) 	**6)40x5=200** **880+200=1080→9u** **1080÷9=120→1u** **120x5=600** **600-200=400** **John's saving is $400**

27

7)50/100 x $63 = $31.50 $63 + $31.50 = $94.50 $567÷ $94.50=6 6 x 2=12 She bought 12 bottles.	8)11+7=18 18 – 14 = 4 4÷2=2 11 – 2=9 The mass is 9kg.
9)28x3=84 Alina had 84 stickers.	10)30÷2=15→r 15x15=225 225x3.14=706.5 706.5÷2=353.25 The area is 353.25cm2
11)a)X x 5=5X (first) 14 – 5=9 9 x 1=9 (9+5X) It would cost $(9+5X) b)100 – 9 – 5X = 91 – 5X She would get back $(91 – 5X)	12)36 – 4= 32→(father's age new) 32÷8=4→John now 32 – 4=28→(diff between J&F) 28÷2=14 14 x 3=42 He would be 42 years old.
13)a)70x5=350 70x3-210 350-210=140 140+40=180km. b)3h→180km 1h→180/3=60km. Speed→60km/h 350÷60=$5_{5/6}$ 5/6 x 60/1=50 Nora arrived Town X at 3.50p.m.	14)14÷2=7→r 7 x7=49 49x3.14=153.86→area of circle 153.86x4=615.44 7x7=49→sq 153.86÷4=38.465 49 – 38.465=10.535 10.535 x 2=21.07 49 – 21.07=27.93 27.93 x 4=111.72 The area is 111.72cm2
15)a)180° – 76° = 104° ∠FAE = (180° – 104°) ÷2=38° ∠FAE is 38° b)180° – 76° =104° 104° – 27° =77° 180° – 77 ° – 38° =65° ∠BEC = 180° – 76° – 65° =39° ∠BEC is 39°	16)a)690 – 450=240 240÷8=30→1u 30 x 9=270 270 + 450=720 Ronnie was given $720. b)30 x 3 =90 Rachel was given $90
17)10x10=100→area of sq Shaded→ ½ of sq 100÷2=50 The total area is 50cm2	18)a)The ratio is 6:7 b)10L÷6= $1_{2/3}$L $1_{2/3}$L x 7 = $11_{2/3}$L There was $11_{2/3}$L of water in the end.