METHODIST GIRLS' SCHOOL

Founded in 1887

MID-YEAR EXAMINATION 2013
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: 14 May 2013

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)

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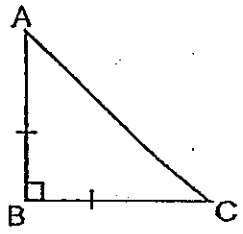
1 Jane had \$5x. Her mother gave her \$3x. She bought a storybook for \$10. How much money had she left?

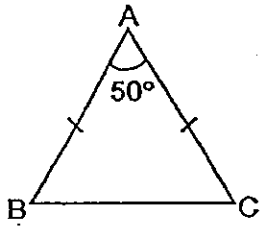
(1) \$8x
(2) \$(2x – 10)
(3) \$(10 – 8x)
(4) \$(8x – 10)

2 Which of the following is an equilateral triangle?

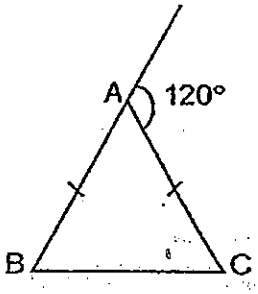
(1)



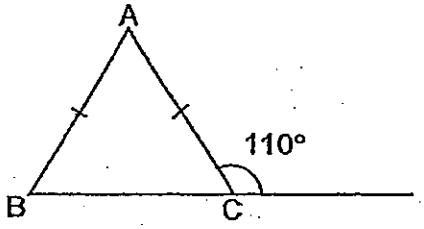
(2)



(3)



(4)

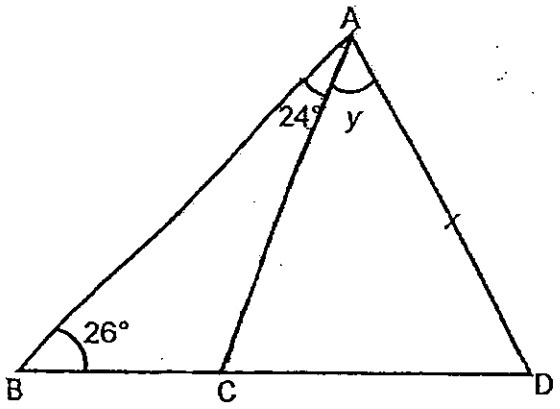


3 The usual price of a bicycle is \$200. Mr Lee bought it at \$160. What was the percentage discount?

(1) 20%
(2) 25%
(3) 40%
(4) 80%

(Go on to the next page)

4 In the figure, ACD is an isosceles triangle and BCD is a straight line. Find $\angle y$.



(1) 50°
(2) 80°
(3) 100°
(4) 130°

5 Which one of the following is equal to 20 sixths?

(1) $\frac{3}{10}$
(2) $3\frac{1}{3}$
(3) $6\frac{1}{20}$
(4) $20\frac{1}{6}$

6 If $X : Z = 5 : 2$ and $Y : Z = 3 : 4$, what is the ratio of $X : Y$?

(1) 5 : 3
(2) 10 : 3
(3) 15 : 6
(4) 15 : 8

(Go on to the next page)

7 There are 75 passengers in a bus. 36% of them are children and the rest are adults. If 75% of the adults are men, how many women are there in the bus?

(1) 12
(2) 24
(3) 36
(4) 48

8 Find the area of a semicircle of diameter 12 cm in terms of π.

(1) $18\ \pi\ cm^2$
(2) $36\ \pi\ cm^2$
(3) $72\ \pi\ cm^2$
(4) $144\ \pi\ cm^2$

9 Six thousands, 5 hundreds and 14 tenths is _____.

(1) 6514
(2) 6640
(3) 6501.4
(4) 6500.14

10 A number when rounded off to the nearest thousand is 400 000. What is that number?

(1) 390 994
(2) 399 573
(3) 400 900
(4) 409 985

(Go on to the next page)

11 Samantha spends $\frac{3}{5}$ of her monthly allowance on food. She spends 0.2 of the remainder on transport and saves the rest. What fraction of her monthly allowance does she spend in all?

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

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

(3) $\frac{8}{25}$

(4) $\frac{17}{25}$

12 Amanda baked 189 cookies. She divided them in the ratio 2 : 3 : 4
She kept the largest share and gave the rest to her cousins.
How many cookies did her cousins receive in all?

(1) 42
(2) 63
(3) 84
(4) 105

13 Mr Tan gave 20% of his monthly salary to his wife. He spent 45% of his salary and saved the rest. If his wife received $600 less than what he saved, what was his monthly salary?

(1) $2400
(2) $4000
(3) $3000
(4) $6000

(Go on to the next page)

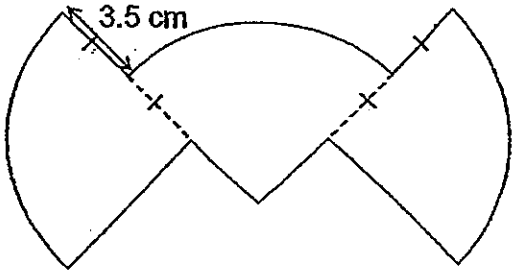
14 The distance between Town A and Town B is 580 km. Mr Raja travelled from Town A to Town B at an average speed of 72 km/h for $2\frac{1}{2}$ h.

How many kilometres more must Mr Raja travel to reach Town B?

(1) 180 km
(2) 400 km
(3) 436 km
(4) 508 km

15 The following figure is made up of 3 identical quadrants.

Find the perimeter of the following figure. (Take $\pi = \frac{22}{7}$)



(1) 33 cm
(2) 44.5 cm
(3) 54 cm
(4) 61 cm

(Go on to Booklet B)

METHODIST GIRLS' SCHOOL

Founded in 1887

MID-YEAR EXAMINATION 2013
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: 14 May 2013

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)

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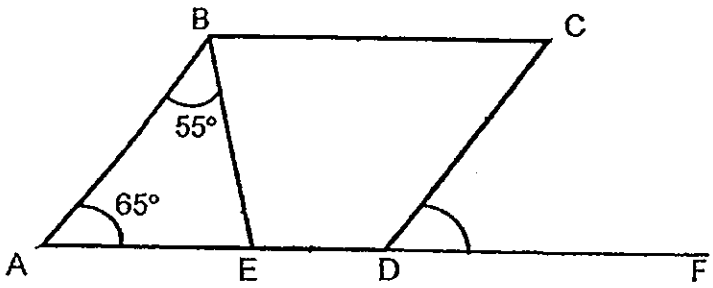
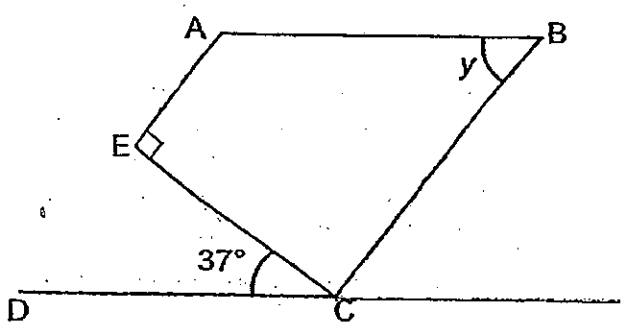
16 In the figure below, ABCD is a parallelogram. AF is a straight line. $\angle BAE = 65°$ and $\angle ABE = 55°$. Find $\angle CDF$.



Ans: _____

17 In the figure below, AB is parallel to DC and AE is parallel to BC. Find $\angle y$.



Ans: _____ °

(Go on to the next page)

18 Find the value of $0.9 - 0.08$ as a fraction in the simplest form.

Ans: _____

19 Angela had 2.5 m of ribbon. She gave her sister 1.4 m of it. What is the ratio of the length of the ribbon Angela had left to that of her sister's?

Ans: _____

20 The ratio of the number of stamps Henry has to the number of stamps Sally has is 3 : 1. Henry has 48 stamps more than Sally. How many stamps does Henry have?

Ans: _____

(Go on to the next page)

21 The ratio of the number of boys to the number of girls in a club was 2 : 3 at first. After 4 boys left the club, the ratio of the number of boys to the number of girls became 1 : 2. How many girls were there?

Ans: _____

22 10% of a is equal to 15% of 200. What is a ?

Ans: _____

23 Adrian cycled at a speed of 30 km/h for 1 h 30 min and completed the rest of the journey at 20 km/h in 30 min. Find the average speed of the whole journey.

Ans: _____km/h

(Go on to the next page)

24 A table with 5 columns is filled with numbers in the following way.

Column A	Column B	Column C	Column D	Column E
2	4	6	8	10
20	18	16	14	12
22				

In which column will the number 78 be?

Ans: _____

25 What is the largest 5-digit odd number that can be formed using all the digits 6, 0, 5, 7 and 2?

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)

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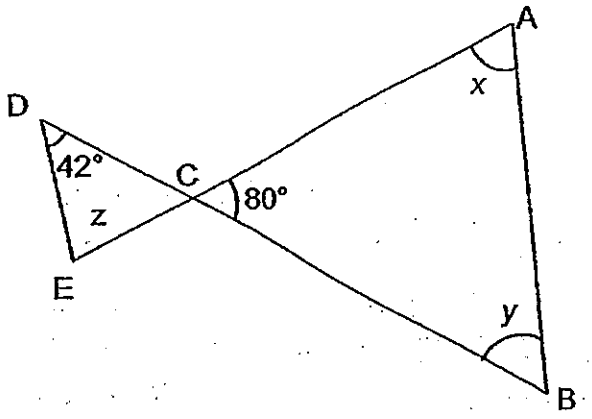
26 The pencils in a stationery store are sold at 4 for p cents.
How many pencils can Ali buy with $2?

Ans: _____

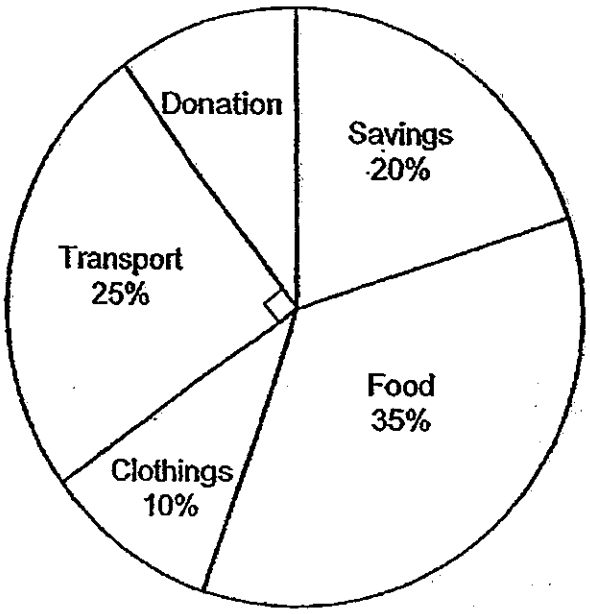
27 In the figure below, ACE and BCD are straight lines.
$\angle CDE=42°$ and $\angle ACB=80°$. Find the sum of $\angle x$, $\angle y$ and $\angle z$.



Ans: _____ °

(Go on to the next page)

28 The pie chart below shows how Andrea spends her monthly salary. If Andrea saves $500 every month, how much does she donate every month?



Ans: $_____

(Go on to the next page)

29 The table below shows the printing speed of a printer.

Type of print	Number of pages per minute
Black and White	15
Colour	10

Raju printed 40 pages in black and white and 15 pages in colour.
How long did the printer take to print the pages?

Ans:__

30 Jason bought 4 T-shirts and 2 pairs of jeans for $180. A pair of jeans cost 3 times as much as a T-shirt. Find the cost of a pair of jeans.

Ans: $_____

End of Paper

METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887

MID-YEAR EXAMINATION 2013
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: 14 May 2013

60

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)

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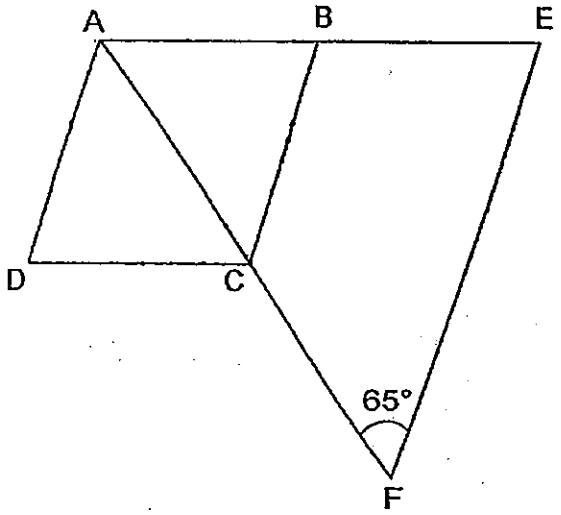
1 In the figure below, ABCD is a rhombus.
BC is parallel to EF and $\angle AFE = 65°$. Find $\angle ADC$.



Ans: _____ °

2 Joan has \$150. Jasmine has 40% more than her. Express the amount of money Joan has as a percentage of the amount of money Jasmine has. Give your answer as a mixed number in the simplest from

Ans: _____ %

(Go on to the next page)

3 There were 480 children in the school hall. 250 of them were boys. An hour later, 90 boys left the hall. What percentage of the number of children left in the hall are boys? (Round off your answer to 1 decimal place)

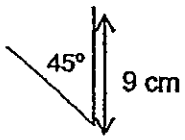
Ans: _____%

4 Ali and Zhixiang started driving from the same place but in opposite directions along a straight road. After 2 hours, they were 222 km apart. If Ali's average speed was 63 km/h, what was Zhixiang's average speed?

Ans: _____ km/h

(Go on to the next page)

5 The figure below shows part of a circle. Find its perimeter. (Take $\pi = \frac{22}{7}$)



(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)

---

6 Sarah had some coins in her coin box. One tenth were 10-cent coins, $\frac{3}{5}$ of them were 20-cent coins and the rest were 50-cent coins.
There were 6 more 20-cent coins than 50-cent coins.
How much money was in the coin box?

Ans: _____ [3]

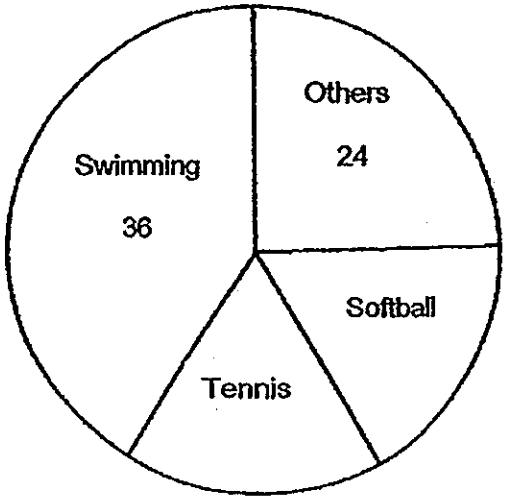
7 Box A and Box B contained only purple and yellow beads.
In Box A, the ratio of the number of purple beads to the number of yellow beads was 4 : 3.
In Box B, the ratio of the number of purple beads to the number of yellow beads was 3 : 1. There were 10 more purple beads in Box B than the number of purple beads in Box A.
If the 2 boxes contained the same total number of beads, how many beads were there in the 2 boxes?

Ans: _____ [3]

(Go on to the next page)

8 The pie chart represents the Co-curricular activity chosen by 90 pupils. Each pupil chose only one activity. An equal number of pupils chose Softball and Tennis.

(a) How many pupils are there in Tennis?
(b) What percentage of the pupils chose Swimming?



Ans: (a) _____ [2]

(b) _____ [1]

(Go on to the next page)

9 A wheel has a radius of 32 cm. The distance from Point X to Point Y is 940 cm. How many turns will the wheel make to cover the distance from Point X to Point Y? Round off your answer to the nearest whole number.

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

Ans: _____ [3]

10 A pack of bookmarks was shared among a group of boys. Another pack containing an equal number of bookmarks was shared among a group of girls. Each boy received 5 bookmarks and each girl received 3 bookmarks. There were 18 more girls than boys. How many bookmarks were there altogether?

Ans: _____ [3]

(Go on to the next page)

11 The table shows the parking charges at a car park.

Parking Charges	
For the first hour	$\$b$
For every additional $\frac{1}{2}$ h	$\$\frac{b}{5}$

Mrs Lee parked her car for $3\frac{1}{2}$ hours at the car park.

(a) How much did Mrs Lee pay for parking her car at the car park? Give your answer in term of b.

(b) If Mrs Lee paid a parking charge of \$8, what is the rate for the first hour?

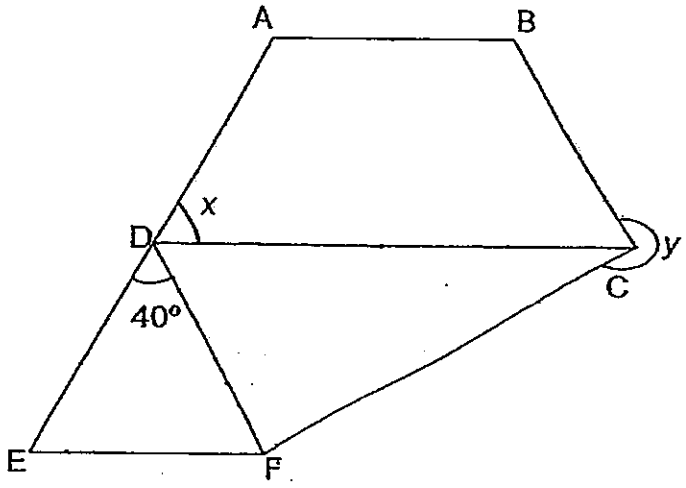
Ans: (a) _____ [2]

(b) _____ [2]

(Go on to the next page)

12 In the figure below, ABCD is a trapezium and DEF is an isosceles triangle. ADE is a straight line. BC is parallel to DF and DC is parallel to EF. $\angle EDF=40°$ and $\angle DFC=90°$

(a) Find $\angle x$
(b) Find $\angle y$



Ans: (a) _____ [2]

(b) _____ [2]

(Go on to the next page)

13 25% of the total number of children in a karate club were girls. After 15 boys left and 15 girls joined the club, the number of boys then became $\frac{9}{16}$ of the total number of children.

(a) How many children were there in the club at first?

(b) How many boys were there in the end?

Ans: (a) _____ [2]

(b) _____ [2]

(Go on to the next page)

14 Tim and Jeffrey both drove from Town A to Town B .Tim started his journey at 9.a.m and travelled at an average speed of 75 km/h. Jeffrey started his journey some time later. At 11 a.m., Jeffrey overtook Tim. When Jeffrey reached Town B at 1 p.m., Tim was 50 km from Town B.

(a) Find Jeffrey's average speed.

(b) At what time did Jeffrey start his journey?

Ans: (a) _____ [2]

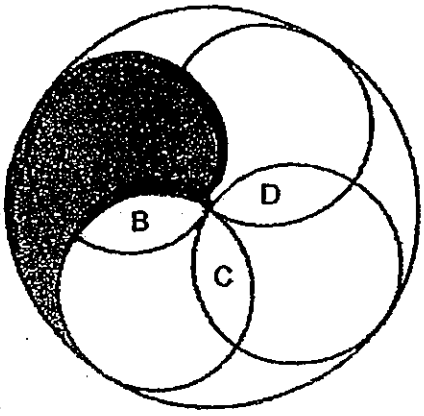
(b) _____ [2]

(Go on to the next page)

15 Four identical circles of diameter 10 cm are arranged in a big circle. The four parts A, B, C and D are arranged in such a way that they are equal.

(Take $\pi = 3.14$)

(a) Find the area of the shaded part.
(b) Find the perimeter of the shaded part.



Ans: (a) _____ [2]

(b) _____ [2]

(Go on to the next page)

16 Mrs Wong gave 20% of her money to a charity. She gave the rest of her money to her three children, Mark, Nicholas and Owen in the ratio 7 : 2 : 3. If Mark gave $1 600 to Nicholas, Nicholas would have half as much as Mark.

(a) How much money did Mrs Wong have at first?

(b) How much money did Owen receive from his mother?

Ans: (a) _____ [3]

(b) _____ [2]

(Go on to the next page)

17 Ailing and Lily played a game using the stickers.

At first, 25% of the number of stickers that Ailing had was $\frac{1}{3}$ of the number of stickers that Lily had.
In the first round, Ailing lost 65 of her stickers to Lily.
In the second round, Lily lost 30 of her stickers to Ailing.
After the game, they had the same number of stickers.

(a) How many stickers did Ailing have at first?

(b) How many stickers did Lily have in the end?

(a) _____ [3]

(b) _____ [2]

(Go on to the next page)

18 Alex and Jen had an equal amount of flour. Jen packed her flour equally into 6 big bags. Alex packed his flour into smaller bags and found he had twice as many bags as Jen. The mass of 3 small bags and 1 big bag of flour was 20 kg.

(a) What was the mass of the flour they had?

(b) Find the total mass of a big bag and a small bag of flour.

Ans: (a) _____ [3]

(b) _____ [2]

End of Paper

ANSWER SHEET

EXAM PAPER 2013
SCHOOL : MGS
SUBJECT : PRIMARY 6 MATHEMATICS

TERM : SA1

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

16)65° 17)53° 18)41/50 19)11:14 20)72 stamps

21)24 girls 22)300 23)27.5 km/h 24)Column B 25)76205

26)800/p 27)158° 28)$250 29)41/6 min 30)$54

Paper 2

1) ∠EFA = ∠BCA = 65°
∠BCA = ∠CAD = ∠ACD = 65°
65° x 2 = 130°
180° − 130° = 50°
∠ADC is 50°

2) 140/100 x 150 = 210
150/210 x 100% = 713/7%

3) 250 − 90 = 160
480 − 90 = 390
160/390 x 100% ≈ 41.0%
The percentage is 41.0%

4)63 x 2 =126
222 − 126 = 96
96 ÷ 2 = 48
His average speed is 48km/h

5)9 x 2 = 18
22/7 x 18 = 56 4/7
56 4/7 ÷ 8 = 7 1/14
7 1/14 x 7 = 49½
49½ + 18 = 67½
Its perimeter is 67½cm

6)1 − 1/10 − 3/5 = 3/10
3/5 − 3/10 = 3/10
3u→6 coins
1u→2 coins
6u→12 coins
6 x 50 = 300
10 x 2 = 20
12 x 20 = 240
300 + 20 + 240 = 560
560c = $5.60
$5.60 was in the box

7)21 − 16 = 5
5u→10 beads
16 + 12 + 21 + 7 = 56
56u→56x10/5 beads = 112 beads
There were 112 beads in the 2 boxes

8)a)90 − 36 − 24 = 30
30 ÷ 2 = 15
There are 15 pupils in Tennis
b)36/90 x 100% = 40%
The percentage is 40%

9)32 x 2 = 64
22/7 x 64 = 201 1/7
940 ÷ 201 1/7 ≈5
It will make 5 turns

10)5b = 3 x (b +18)
5b = 3b + 54
2b = 54
b = 27
27 x 5 = 135
27 + 18 = 45
45 x 3 = 135
135 x 2 = 270
There were 270 bookmarks

11)a)3½ - 1 = 2½
2½h = five ½ hours
5/6 x 5 = b
b+ b = 2b
She has to pay $2b for parking her car at the car park
b)2b→$8
b→$8/2
= $4
The rate for the first hour is $4

12)a)180 – 40 = 140
140÷2 = 70 (∠DEF/∠DFE)
∠DFE = ∠FDC = 70°
∠X is 70°
b)180 – 70 – 90 = 20 (∠DCF)
∠X=∠BCD = 70°
360 – 70 – 20 = 270°
∠y is 270°

13)a)16 – 9 = 7
12 – 9 = 3
3u→15 children
16u→16x15/3 children
= 80 children
There were 80 children at first
b)9u→9x15/3 children
= 45 children
There were 45 boys in the end

14)a)75 x 2 = 150
75 x 4 = 300
300 – 150 = 150
150 + 50 = 200
200 ÷2 = 100
Jeffrey's average speed is 100km/h.

14)b)300+ 50 = 350
350 ÷100 = 3.5 = 3½
He started his journey at 9.30a.m.

15)a)big circle radius→10cm
3.14 x10 x 10 = 314
314 ÷4 = 78.5
The area of the shaded part is 78.5cm2
b)3.14 x 10 = 3.14 (perimeter of line)
3.14÷2 = 15.7
15.7 + 31.4 = 47.1
The perimeter is 47.1cm

16)a)7 +2 = 9
9÷3 = 3
3 – 2 = 1
1u→$1600
1600 x 12 = 19200
80% →$19200
100% →$100 x 19200/80 = $24000
She had $24000 at first
b)3 x 1600 = 4800
He received $4800 from his mother.

17)a)4u – 35 = 3u + 35
4u = 3u + 70
1u = 70
4 x 70 = 280
Ailing had 280 stickers at first
b)3 x70 = 210
210 + 35 = 245
Lily had 245 stickers in the end.

18)a)6 x 2 = 12
3sb + 1bb = 20kg
18sb + 6bb = 120kg
6bb = 12sb
18sb + 12sb = 120kg
30sb = 120kg
sb = 4kg
3sb = 12kg
12sb = 48kg
20 – 12 = 8 (1bb)
8 x 6 = 48
48 + 48 = 96
They had 96kg of flour

b)8 + 4 = 12
The total mass of 1 big bag and 1 small bag of flour is 12kg.