NAN HUA PRIMARY SCHOOL
SEMESTRAL EXAMINATION 1 – 2015
PRIMARY 6

MATHEMATICS

Paper 1

Section A: 15 Multiple Choice Questions (20 marks)

Section B: 15 Short Answer Questions (20 marks)

Total Time for Paper 1: 50 minutes

INSTRUCTION TO CANDIDATES

1. **Write your name and index number in the space provided.**
2. **Do not turn over the page until you are told to do so.**
3. **Follow all instructions carefully.**
4. **Answer all questions.**
5. **Shade your answers in the Optical Answer Sheet (OAS) provided for Questions 1-15.**
6. **You are not allowed to use calculator for Paper 1.**

Marks Obtained

Paper 1	**Booklet A**		**/ 40**
	Booklet B		
Paper 2			**60**
Total			**/ 100**

Name : _____ **(** **)**

Class : 6_____

Date : 11 May 2015 **Parent's Signature :** _____

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Section A (20marks)

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 and shade your answer (1, 2, 3 or 4) on the Optical Answer Sheet.

1. Which digit in 96.78 is in the tenths place?

   (1) 6

   (2) 7

   (3) 8

   (4) 9

2. Simplify $9c + 6 - c - 2$

   (1) $8c + 4$

   (2) $8c - 4$

   (3) $10c + 8$

   (4) $10c - 8$

3. In 2014, the estimated number of cars in Singapore was 1 248 807.
   Round off this number to the nearest thousand.

   (1) 1 200 000

   (2) 1 249 000

   (3) 1 250 000

   (4) 1 300 000

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4. 5 boys shared half a pie equally. What fraction of the original pie did each boy get?

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

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

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

(4) $\frac{1}{10}$

5. Express $1\frac{3}{20}$ as a decimal.

(1) 1.32

(2) 1.15

(3) 1.3

(4) 1.2

6. If Alice walks 2 km in 12 minutes, how far can she walk in one hour at this rate?

(1) 5 km

(2) 6 km

(3) 10 km

(4) 12 km

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7. Clara has 10% more stickers than Hugo. What is the ratio of the number Hugo's stickers to the number of Clara's stickers?

(1) 9 : 10

(2) 10 : 9

(3) 10 : 11

(4) 11 : 10

8. Jamie attended a concert at 7.40 p.m. The concert lasted 2 h 20 min. At what time (in 24-h clock) did the concert end?

(1) 10 00

(2) 11 00

(3) 21 00

(4) 22 00

9. Janet spent 30% of her pocket money and still had $14 left. How much did she spend?

(1) $6

(2) $2

(3) $10

(4) $20

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10. Ann and Benny shared the total cost of a gift. Ann paid $\frac{3}{10}$ of the cost plus another $10. Benny paid $25. How much did the gift cost?

(1) $5

(2) $25

(3) $35

(4) $50

11. 60% of a class were boys and the rest were girls. All the boys and 25% of the girls like to play soccer. What percentage of the class like to play soccer?

(1) 10%

(2) 15%

(3) 70%

(4) 85%

12. The ratio of Ken's age to Sam's age this year is 6 : 5. Ken is 3 years older than Sam. What was Sam's age last year?

(1) 14 years old

(2) 15 years old

(3) 17 years old

(4) 18 years old

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13. Gerald reads 120 pages of a book in 4 days. If he always reads 6 more pages than the previous day, find the number of pages he reads on the first day.

(1) 21

(2) 24

(3) 30

(4) 36

14. The average mass of 3 girls, Angel, Belinda and Cherry is 42 kg. Angel is 3 kg lighter than Belinda. The total mass of Angle and Belinda is the same as the mass of Cherry. What is the mass of Angel?

(1) 27 kg

(2) 30 kg

(3) 33 kg

(4) 41 kg

15. Daphne spent $\frac{3}{4}$ of her money to buy 15 similar books.

She wanted to buy another 10 such books but found that she was short of $30. What was the price of one such book?

(1) $6

(2) $2

(3) $3

(4) $10

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Section B (20 marks)

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. Find the value of $20 \div \frac{3}{5}$

Give your answer in mixed number in the simplest form.

Ans : _____

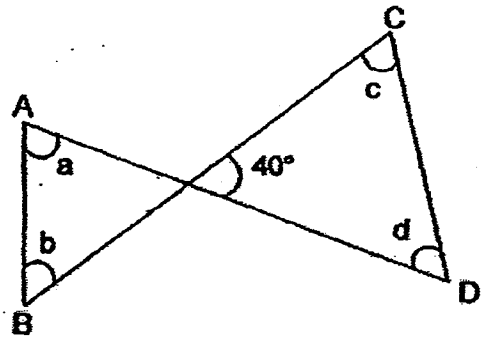
17. Find the value of $7 + \frac{2a}{12}$ when $a = 3$.

Give your answer as a mixed number in the simplest form.

Ans : _____

18. The figure below is not drawn to scale. AD and BC are straight lines.

Find the sum of angles a, b, c and d.



Ans: _____°

Subtotal	/ 3

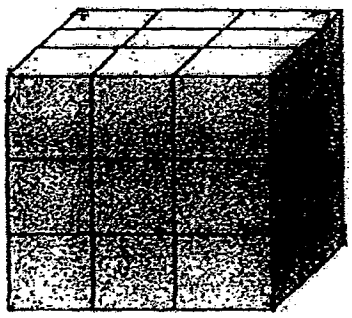
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19. Caleb cycled 12 km to a park in 2 hours and then returned home by the same route in half the time. What was his average speed for the whole journey?

Do not write in this space

Ans : _____km/h

20. The solid below was dipped into a can of grey paint. It was then cut into cubes along the lines as shown. How many cubes had exactly 3 of the faces painted grey?



Ans : _____

21. Mrs Raja has $\frac{11}{12}$ kg of flour. She repacks them into packets of $\frac{1}{6}$ kg each. How many such packets does she get?

Ans : _____

Subtotal	/ 3

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22. Amy's transport allowance is decreased from $150 to $120. What is the percentage decrease in her transport allowance?

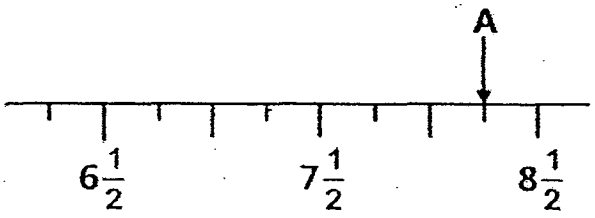
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Ans : _____%

23. In a basket of 60 balls, 36 are red balls and the rest are green. What is the ratio of the number of green balls to the number of red balls in the basket? (Give your answer in the simplest form.)

Ans _____ : _____

24. Write the **mixed number** represented by the letter A in its simplest form.



Ans: _____

25. Paper plates are only sold in packs of 10. Each pack is sold at $1.80. Mrs Lee has $19. How many paper plates can she buy at most?

Ans : _____

Subtotal	/ 4

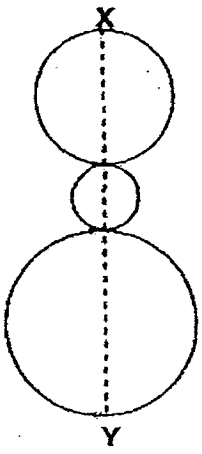
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Questions 26 to 30 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. [10 marks]

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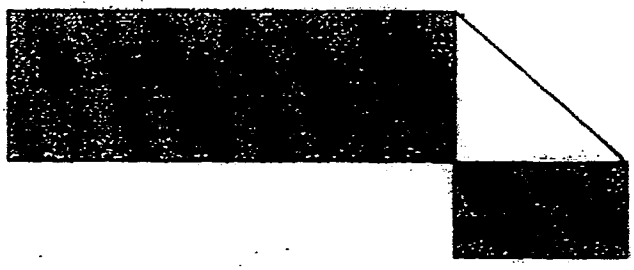
26. The figure below is not drawn to scale. Line XY is 28 cm and it passes through the centre of all three circles. Find the perimeter of the figure.

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



Ans : _____ cm

27. A rectangular slip of paper measuring 15 cm by 4 cm is folded at one end as shown in the figure below. Find the total area of the shaded parts.



Ans: _____ cm^2

Subtotal	/ 4

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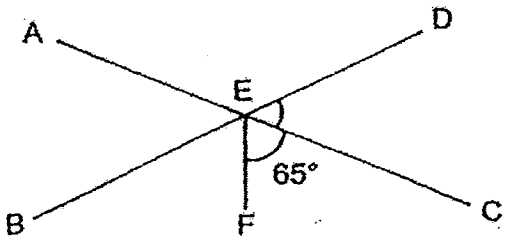
28. At a class party, each pupil was allowed to bring either 1 or 2 family members. If the ratio of the number of pupils to the number of family members was 4 : 7, what fraction of the pupils brought 2 family members?

Do not write in this space

Ans: _____

29. The diagram below is not drawn to scale. AC and BD are straight lines.

∠FEC is half of ∠BEC. ∠FEC is 65°. What is ∠CED?



Ans: _____°

30. If the radius of a circle is doubled, what is the percentage increase in its area?

Ans: _____ %

END OF PAPER

Subtotal	/ 6

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NAN HUA PRIMARY SCHOOL
SEMESTRAL EXAMINATION 1 – 2015
PRIMARY 6

MATHEMATICS

Paper 2

Total Time for Paper 2: 1 hour 40 minutes

5 Short Answer Questions (10 marks)

13 Structured / Long Answer Questions (50 marks)

INSTRUCTION TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully
4. Answer all questions and show your workings clearly.
5. You are allowed to use a calculator.

Marks Obtained

Total		/ 60

Name : _____ ( )

Class : 6_____

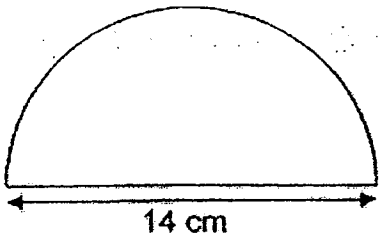
Date : 11 May 2015 Parent's Signature :_____

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Paper 2 (60 marks)

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.

1. Find the area of the semi-circle with diameter 14 cm as shown in the diagram below. (Take $\pi = \frac{22}{7}$)



Ans: _____ cm^2

Do not write in this space

2. A soccer team played 10 games. It lost 2n games.
   What fraction of the games did the soccer team win?
   Express the answer in terms of *n*.

Ans: _____

3. A cubical water tank has a base area of 36 cm^2.
   What is the volume of water in the tank when it is full?

Ans: _____ cm^3

Subtotal	/ 6

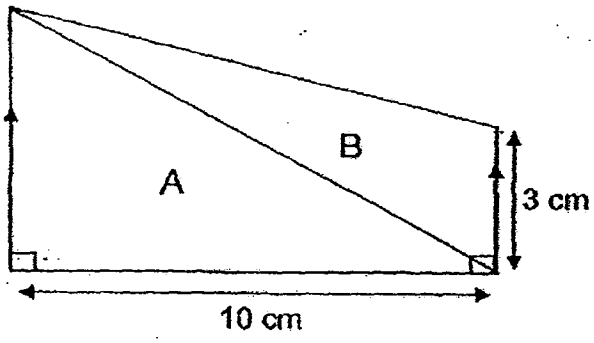
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4. For every 7 marbles which Faith has, Gary has 9.
How many marbles do they have altogether if Gary has 63 marbles?

Ans:_____

5. The diagram below is not drawn to scale. It is made up of 2 triangles, A and B. The area of Triangle A is 3 times the area of Triangle B.
What is the area of Triangle A?



Ans : _____ cm^2

Subtotal	/4

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For each question from 6 to 18, **show your workings clearly in the space below** it and **write your answer in the space provided**. The number of marks available is shown in brackets [ ] at the end of each question or part-question.
Remember to include the units wherever possible.

6. The radius of a bicycle wheel is 35 cm. How many revolutions does it need to make to cover a distance of 880 cm? (Take $\pi = \frac{22}{7}$)

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Ans: _____ [3]

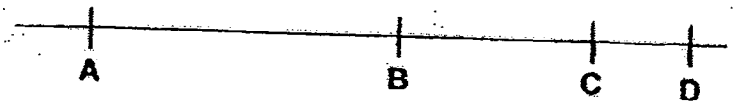
7. There were some men and women at a concert. 24 women left and as a result, the percentage of men at the concert increased from 50% to 70%. How many people were at the concert at first?

Ans: _____ [3]

Subtotal	/ 6

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8. A, B, C and D are four points on a line such that AB : AC is 3 : 5 and BD : CD is 7 : 2. If CD is 12 cm long, find the length of AB.



Do not write in this space

Ans: _____ [3]

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9. Sara spent $\frac{4}{9}$ of her money on 6 mangoes and 8 apples.

If 1 apple cost $\frac{1}{2}$ as much as a mango, how many apples could Sara buy with the rest of her money?

Do not write in this space

Ans: _____ [3]

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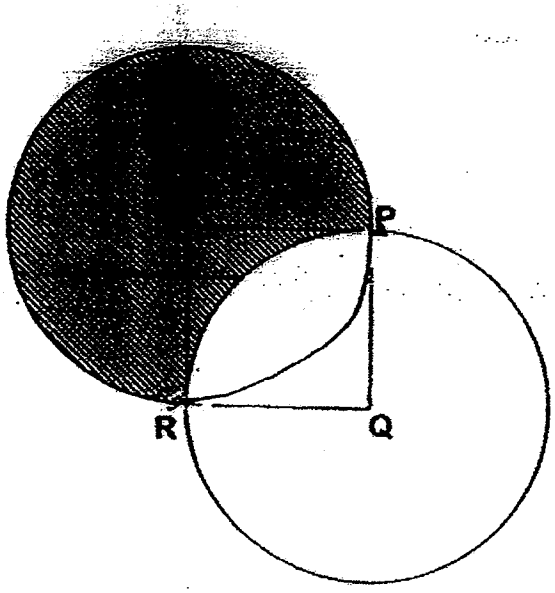
10. Wei and Feng started cycling from the same place in opposite directions along a straight path. 15 minutes later, they were 12 km apart. Wei's average speed was 20 km/h.
What was Feng's average speed?

Ans: _____ [3]

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11. The figure below is made up of 2 identical circles with centres O and Q. OPQR is a square of side 14 cm. Find the area of the shaded part. (Take $\pi = 3.14$)

Do not write in this space



Ans: _____ [4]

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12. Ann had some red and blue balloons in the ratio 7 : 2. She gave away 15 red balloons and bought another 20 blue balloons. Then she found that she had an equal number of red balloons and blue balloons.

How many balloons did she have altogether at first?

Do not write in this space

Ans: _____ [4]

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13. The original selling price of a computer was $2800. A shop sold it at a discount of 20% during a sale. If the shop charged a 7% GST on the discounted price,

(a) how much was the GST?

(b) how much was the computer, inclusive of GST?

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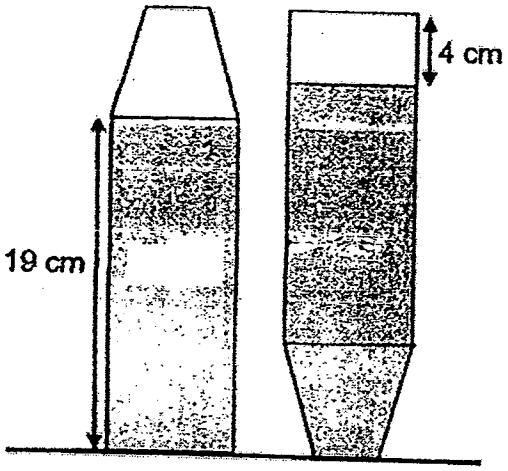
Ans : (a)____ __[2]

(b)____ __[2]

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14. A bottle standing on its base contains 285 $m\ell$ of water. The height of the water level is 19 cm. When the same bottle is overturned, the gap between the base of the bottle and the water level is 4 cm.

a) What is the base area of the bottle?
b) What is the capacity of the bottle? (Leave your answer in $m\ell$.)



Do not write in this space

Ans :(a) _____ [2]

(b) _____ [2]

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15. Curtis and Dylan ran in a race around a 800 m track. Curtis ran at a speed of 185 m/min and Dylan at a speed that was 35 m/min slower than Curtis throughout the race. How many completed rounds would Dylan have finished when he had run a distance of 490m less than Curtis?

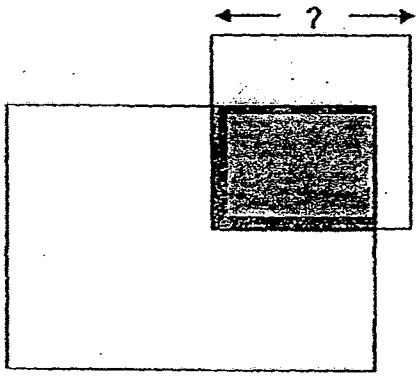
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Ans: _____ [4]

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16. The figure below, not drawn to scale, is made up of a square and a rectangle. The area of the square is $\frac{1}{3}$ that of the rectangle. The ratio of the area of the unshaded part of the rectangle to that of the unshaded part of the square is 4 : 1. Given that the area of the shaded part is 48 cm^2, find the length of the square

Do not write in this space



Ans: _____ [5]

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17. At a party, each boy was given 5 sweets and each girl was given 6 sweets. Each accompanying adult received 3 sweets. $\frac{2}{5}$ of the people at the party were adults. The ratio of the number of boys to the number of girls was 5 : 7. Given that 1638 sweets were given away, how many children were there altogether?

Do not write in this space

Ans: _____ [5]

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18. Three boxes A, B and C contained a total of 986 red and 866 green marbles. 100 red and 28 green marbles were transferred from Box B to Box A. Another 176 red and 38 green marbles were then transferred from Box B to Box C. As a result, 50% of all the marbles in Box A and Box C were red, while 65%of the marbles in Box B were red.
How many red marbles were there in Box B at first?

Do not write in this space

Ans: _____ [5]

End of Paper 2

Remember to check your work.

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NAN HUA PRIMARY SCHOOL
SA 1 2015
PRIMARY 6 MATHEMATICS
PAPER 1

1) 2	2) 1	3) 2	4) 4	5) 2	6) 3
7) 3	8) 4	9) 1	10) 4	11) 3	12) 1
13) 1	14) 2	15) 1			

16) 33/1/3

17) 7/1/2

18) 2X180-40-40 = 280°

19) (12X2)/(2+1) = 24/3 = 8 km/h

20) 8

21) 11/12÷1/6 = 5 R 1
Ans : 5 packets

22) 30/150x100% = 20%

23) 2 : 3

24) (8+8/1/2)÷2 = 8/1/4

25) $19÷$1.80 = 10 R 10
10x10 = 100

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26) 22/7x28 = 88 cm

27) 15x4-4x4 = 44 sq cm

28) Assume all pupils brought 1 member
1x4 = 4
7-4 = 3
2-1 = 1
3÷1 = 3
Ans: 3/4

29) 180-65x2 = 180-130 = 50°

30) πx2rx2r-πxrxr = 3xπxrxr
(3xπxrxr/πxrxr)x100% = 300%

Paper 2

1) 1/2x22/7x7x7 = 77 sq cm

2) (10-2n)/10

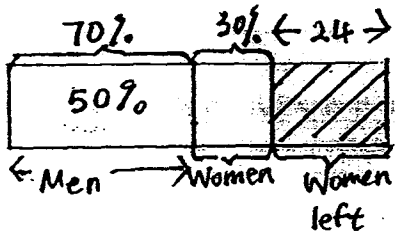
3) √36 = 6
6x6x6 = 216 cubic cm

4) 63÷9x16 = 112

5) 1/2x3x10x3 = 45 sq cm

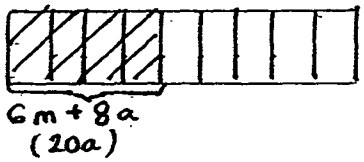
6) 2x22/7x35 = 220 cm
880÷220 = 4 revolutions

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7) 

70% -- 50%
30% -- 30/70x50% = 21/3/7%
50%-21/3/7% = 28/4/7%
28/4/7% -- 24
100% -- 100÷28/4/7x24 = 84 people at first

8) AB : BC : CD
3 : 2
5 : 2
---
15 : 10 : 4
4u -- 12cm
15u -- 15÷4x12 = 45 cm

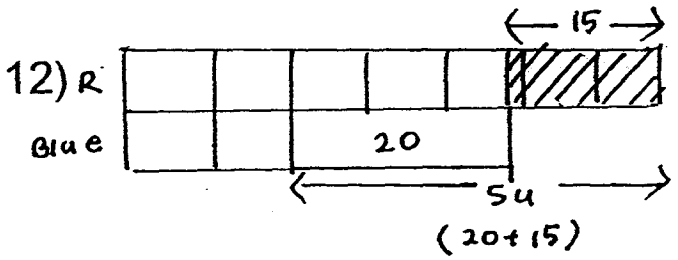
9) 

1/2m = 1a
6m = 12a
12a+8a = 20a
4u -- 20 apples
5u -- 5/4x20 = 25 apples

10) 20x1/4 = 5 km
12-5 = 7 km
7÷1/4 = 28 km

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11) Area of minor segment = 1/4x3.14x14x14-1/2x14x14
= 55.86 sq cm
Area of shaded region = 3.14x14x14-55.86x2 =
503.72 sq cm

12) 

5u -- 35
9u -- 9/5x35 = 63 balloons at first

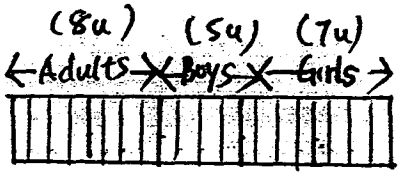
13a) 2800÷10x80 = $2240
2240÷100x7 = $156.80
b) 2240÷100x107 = $2396.80

14a) 285÷19 = 15 sq cm
15x4+285 = 345 ml

15) 185÷35 = 14 min
14x(185-35) = 2100 m
2100÷800 = 2 R 5
Ans : 2 completed rounds

16) 3u+48x3 = 3u+144
3u+144 = 4u
1u = 144
√144 = 12 cm

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17) 

8x3+5x5+7x6 = 91
1638÷91 = 18
18x12 = 216 children

18) 65-35 = 30
986-866 = 120
30u -- 120
65u -- 65/30x120 = 260
260+176+100 = 536 red marbles in box B at first

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