



**Rosyth School
First Semestral Examination 2010
Primary 6 Mathematics**

Name: _____ Register No. _____

Class: Pr 6 - _____

Date: 12 May 2010 Parent's Signature: _____

Total Time for Booklets A and B : 50 min

**PAPER 1
(Booklet A)**

Instructions to Pupils:

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Shade your answers in the Optical Answer Sheet (OAS) provided.
5. You are **not** allowed to use a calculator

Section	Maximum Mark	Marks Obtained
Paper 1 (Booklet A)	20	

* This booklet consists of 6 pages (excluding this cover page)

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Booklet A

Question 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 and 4). Shade the correct answer on the OAS (Optical Answer Sheet).

(20 marks)

1. How many 1 000s are there in 3 860 000?

- (1) 386
- (2) 3 860
- (3) 38 600
- (4) 380 600

2. Simplify $8w + 7 - 3w + 6$.

- (1) $5w + 1$
- (2) $5w + 13$
- (3) $11w + 1$
- (4) $11w + 13$

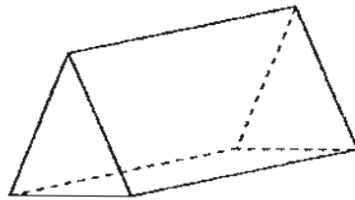
3. Divide 5 by $\frac{2}{3}$.

- (1) $\frac{2}{15}$
- (2) $3\frac{1}{3}$
- (3) $5\frac{2}{3}$
- (4) $7\frac{1}{2}$

4. What is 25% of 3 hours?

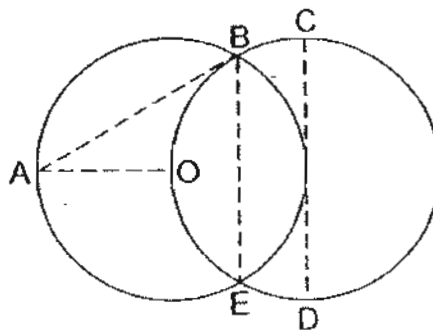
- (1) 15 min
- (2) 30 min
- (3) 36 min
- (4) 45 min

5. How many faces does the following solid figure have?



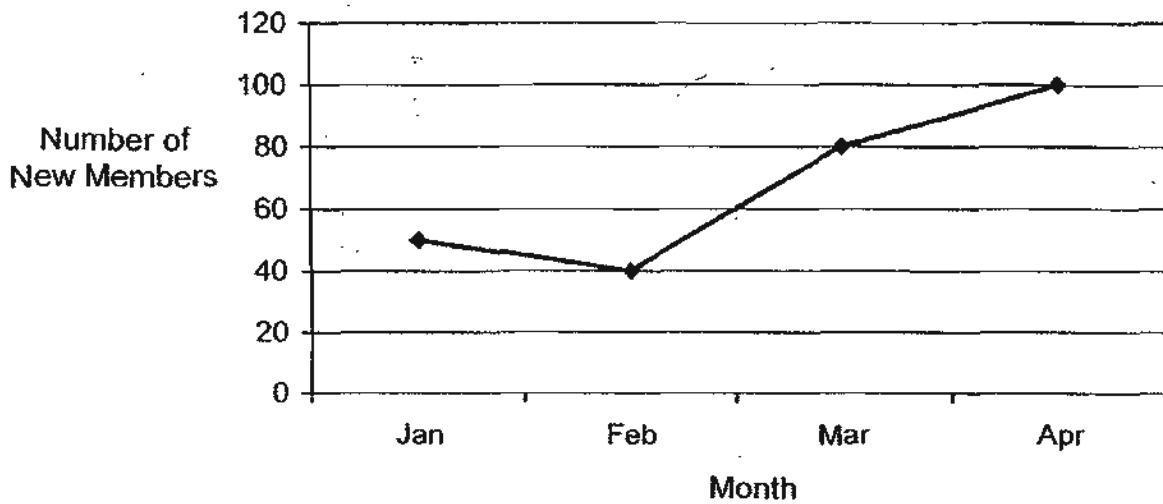
- (1) 5
- (2) 6
- (3) 3
- (4) 4

6. The figure below shows two identical circles. O is the centre of the circle. Which line is the diameter of the circle?



- (1) AO
- (2) AB
- (3) BE
- (4) CD

7. The graph below shows the number of new members added to a soccer club each month.



Which month shows the biggest increase in the number of new members added to the club?

- (1) Jan
 - (2) Feb
 - (3) Mar
 - (4) Apr
8. The ratio of the number of apples to the number of oranges in a basket is 2 : 3. Half of the number of apples is red apples. What is the ratio of the number of red apples to the number of fruits in the basket?
- (1) 1 : 5
 - (2) 2 : 5
 - (3) 1 : 4
 - (4) 3 : 5

9. Miss Koh's monthly salary is \$2 400 this year. Her salary last year was \$2 000. What was the percentage increase in her salary?

(1) 10%

(2) $16\frac{2}{3}\%$

(3) 20%

(4) $83\frac{1}{3}\%$

10. Kenny has a weekly allowance of \$20. He plans to save 10% of it every week to buy a pair of soccer boots. How many weeks will it take for him to save \$80?

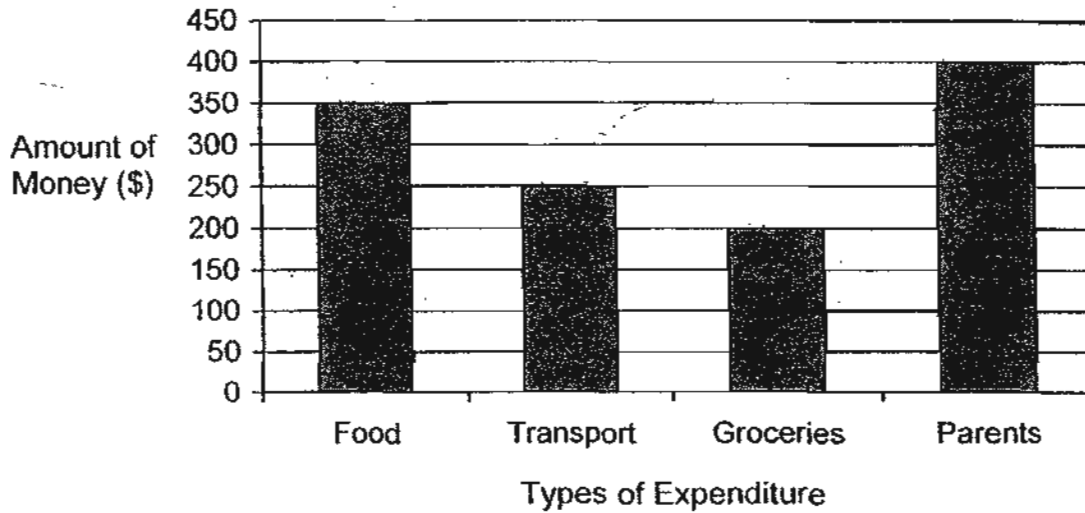
(1) 8

(2) 10

(3) 40

(4) 4

11. The graph below shows what Mr Lim does with his monthly salary.



Mr Lim then saves the rest of the money which is $\frac{1}{3}$ of his salary.

What is Mr Lim's monthly salary?

- (1) \$1 200
- (2) \$1 800
- (3) \$2 400
- (4) \$3 600

12. There are 600 beads in a box. 25% of them are red, 40% of them are white and the rest are green. How many more white beads than green beads are there?

- (1) 30
- (2) 60
- (3) 90
- (4) 210

13. Two identical boxes A and B were each filled with some beads. At first, the number of beads in box B was thrice the number of beads in box A. After 1400 beads and 600 beads were added to box A and box B respectively, both boxes had an equal number of beads. What was the total number of beads in both boxes at first?

- (1) 1 350
- (2) 1 600
- (3) 2 000
- (4) 3 600

14. There are 40 pupils in a class and 40% of them are girls. 25% of the girls and 50% of the boys walk to school. How many pupils in the class walk to school?

- (1) 12
- (2) 16
- (3) 24
- (4) 30

15. Alice, Ben and Cathy shared some money. Ben's share is $\frac{1}{3}$ of the money. $\frac{1}{2}$ of Alice's share is $\frac{2}{3}$ of Cathy's share. If Ben's share is \$56, how much must Alice give to Cathy so that both Alice and Cathy would have the same amount of money?

- (1) \$8
- (2) \$16
- (3) \$28
- (4) \$56



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PAPER 1
(Booklet B)

Instructions to Pupils:

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Section	Maximum Mark	Marks Obtained
Paper 1 (Booklet B)	20	

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Booklet B

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 the following in numeral:

Two million, four hundred and nine thousand and six.

Ans: _____

17. What is the missing number in the box?

$$1\ 350 \times 100 = \underline{\quad} \times 135 + 135.$$

Ans: _____

18. Mr Rashid had $\frac{7}{10}$ kg of sugar. He packed them into packets of $\frac{1}{4}$ kg each. How many such packets did he get?

Ans: _____

19. Manisha bought 2 identical blouses. She gave the cashier \$50 and received \$3m change. How much did each blouse cost?

Ans: \$ _____

20. The ratio of the number of toy cars to the number of toy robots is 5 : 7. There are 260 more toy robots than toy cars. How many toy robots are there?

Ans: _____

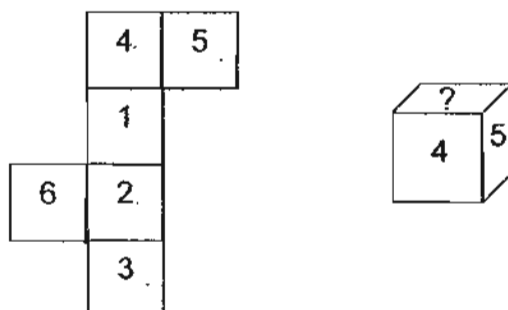
21. The ratio of Muthu's mass to Samy's mass is 1 : 3. The ratio of Samy's mass to John's mass is 4 : 3. Their total mass is 200 kg. How many more kilograms is John's mass than Muthu's mass?

Ans: _____ kg

22. A garden is divided into three different plots to plant roses, orchids and tulips. The areas of these plots are in the ratio 2 : 3 : 5 respectively. If the area of the plot for orchids is 42 m^2 , what is the area of the garden?

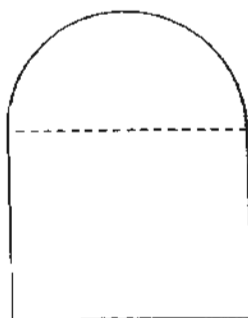
Ans: _____ m^2

23. The net shown below is folded to form a cube. What is the missing number on the top face of the cube?



Ans: _____

24. The figure below is made up of a semi-circle and a square of side 7 cm. Find the perimeter of the following figure. (Take $\pi = \frac{22}{7}$)



Ans: _____ cm

25. There was a 20% discount during a sale. The price of a sewing machine was \$600 before the discount. What was the price of the sewing machine after the discount?

100%

80%

Ans: \$ _____

Questions 26 to 30 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)

26. Michael spent \$700 this week. This was \$200 more than the amount he spent last week. Find the percentage increase in his spending.

Ans: _____ %

27. The ratio of Liling's number of stickers to Jane's number of stickers was 5 : 8. The ratio became 3 : 7 when Jane bought 55 new stickers. How many stickers do they have now altogether?

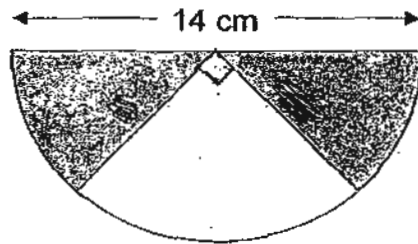
Ans: _____

28. The ratio of the number of adults to children in a concert is 5 : 6. The ratio of the number of boys to the number of girls is 2 : 5. If there are 36 more girls than boys, how many adults are there at the concert?

Ans: _____

29. The figure below is made up of a semi-circle and a quadrant.

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



Ans: _____ cm²

30. Haresh and Roland have \$198. Haresh and Weijie have \$250. Weijie has 5 times as much money as Roland. How much money does Haresh have?

Ans: \$ _____



Rosyth School
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Time: 1 h 40 min

PAPER 2

Instructions to Pupils:

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Show your workings clearly as marks are awarded for correct working.
5. Write your answers in this booklet.
6. You are allowed to use a calculator.

Questions	Maximum Mark	Marks Obtained
Q 1 to 5	10	
Q 6 to 18	50	

Section	Maximum Mark	Marks Obtained
Paper 1	40	
Paper 2	60	
Total	100	

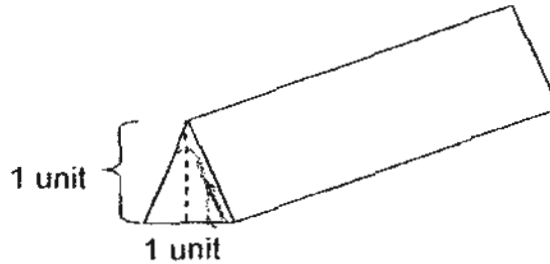
* This booklet consists of 14 pages (excluding this cover page)

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Questions 1 to 5 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)

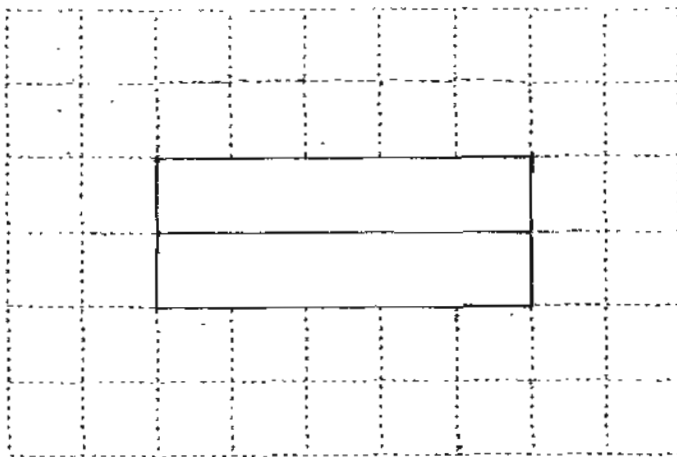
1. The diagram of a solid is shown below.



(a) How many rectangular faces are there in the solid?

Ans : _____ [1]

(b) Complete the net of the solid using the grid below.



[1]

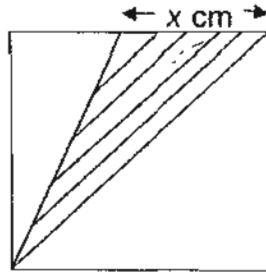
2. Tommy and Peter have a total of 2982 stamps. Tommy has $\frac{2}{5}$ of the number of stamps Peter has. How many more stamps does Peter have than Tommy?

Ans : _____

3. Minah used 40% of the flour she had to bake a few cakes and 30% of it to bake some cookies. After that, she still had 360 g of flour left. How much flour did she have at first?

Ans : _____ 9

4. The figure below is made up of a triangle in a square. The area of the square is 144 cm^2 . Find the area of the shaded triangle and express it in terms of x .



Ans : _____ cm^2

5. Jeremy is k years old now. In 10 years' time, his brother will be 2 times his age. Express their total age in 10 years' time in terms of k .

Ans : _____

For questions 6 to 18, show your working clearly in the space provided for each question 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. Amy has $\frac{7}{8}$ m of cotton twine. She cuts it into pieces of length $\frac{3}{28}$ m each for her artwork.

- (a) What is the maximum number of the pieces she can cut from the cotton twine?
(b) What is the length of the remaining cotton twine?

Ans : (a) _____ [1]

(b) _____ [2]

7. Carrie had \$210. During a moving-out sale, she paid \$54 for 3 dresses and 5 T-shirts. She bought another 10 T-shirts and a few dresses with all the remaining money. If each dress cost \$6, how many dresses did she buy in all?

Ans : _____ [3]

8. Mr Li earns \$36 600 a year. Every month, he spends $\frac{1}{4}$ of his salary on his family expenses and gives $\frac{2}{5}$ of his remaining salary to his mother. How much of his salary is he left with every month?

Ans : _____ [3]

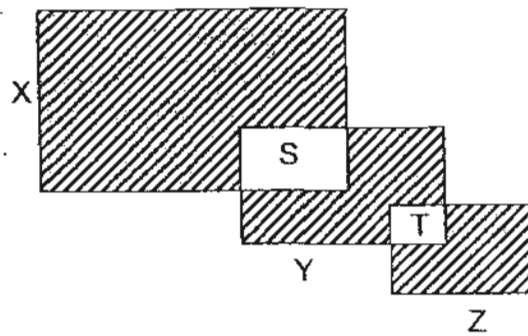
9. The ratio of the amount of Paul's savings to Benny's savings was 3 : 5. After Paul received a part of Benny's savings, the ratio of Paul's savings to Benny's savings became 9 : 7. The amount of savings Paul received from Benny was \$24, what is the total amount of savings the boys had?

Ans : _____ [3]

10. Old MacDonald had a total of 840 chickens and ducks in his farm. 65% of them were chickens and the rest were ducks. After selling 300 chickens and ducks altogether, the percentage of chickens was reduced to 55%. How many ducks did he sell?

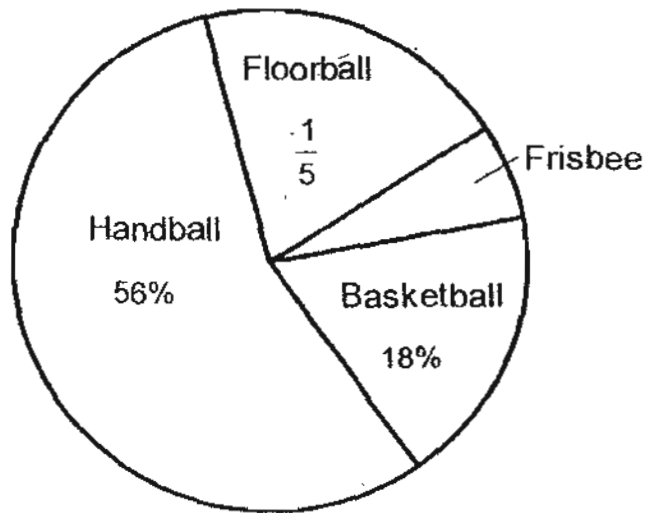
Ans : _____ [3]

11. The figure below (not drawn to scale) is made up of three rectangles X, Y and Z placed such that they overlap at S and T. The ratio of the area of Rectangle X to the area of Rectangle Y to the area of Rectangle Z is $6 : 4 : 1$. The ratio of the area of Rectangle S to the area of Rectangle T is $3 : 1$. If the area of Rectangle Y is twice that of the area of Rectangle S, what is the ratio of the total area of shaded parts to the total area of the unshaded parts? Express the ratio in its lowest term.



Ans : _____ [4]

12. The pie chart below shows the number of pupils who played in the different games on the annual Sports Day.



- (a) The total number of participants on Sports Day was 3600. How many fewer participants were there in Basketball than Floorball?
- (b) How many participants played Frisbee?

Ans : (a) _____ [2]

(b) _____ [2]

13. Siva needed to buy some furniture for his new company. He could buy 4 tables and 6 bookshelves with \$490. With the same amount of money, he could buy 14 bookshelves too.

(a) How many sets of 4 tables and 6 bookshelves could he buy with \$2000?

(b) Siva decided to buy tables only, how many tables could he buy with \$1960?

Ans : (a) _____ [2]

(b) _____ [3]

14. George had some trading cards. He gave 75% of them to Mary and 20% of the remainder to Charlie. He then had 140 trading cards left.

(a) How many trading cards had George at first?

(b) How many percent more trading cards did Mary receive than Charlie?

Ans : (a) _____ [3]

(b) _____ [2]

15. Kelly had 5100 beads. 20% of them were red. After Carol gave her some more red beads, the percentage of red beads increased to 40%.

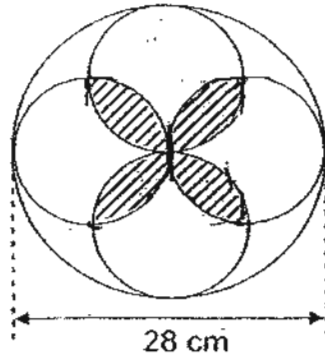
(a) How many red beads did Kelly have at first?

(b) How many red beads did Carol give Kelly?

Ans : (a) _____ [1]

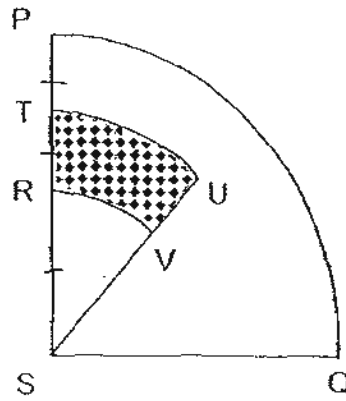
(b) _____ [3]

- 16 The figure below shows four identical circles arranged in a big circle of diameter 28 cm. Find the area of the shaded part. (Take $\pi = \frac{22}{7}$)



Ans : _____ [4]

17. In the diagram below (not drawn to scale), PQS is a quadrant with a radius of 48 cm. $PT = TR$ and $PR = RS$. Sector TUS is $\frac{1}{8}$ of the circle with radius TS. Find the area of the unshaded part. Give your answer correct to 2 decimal places.



Ans : _____ [5]

18. There were 156 more pupils in the playground than in the library. $\frac{1}{5}$ of the pupils in the library were girls and $\frac{5}{6}$ of the pupils in the playground were boys. If there were 17 more girls in the playground than in the library, find the total number of pupils in the two places.

Ans : _____ [4]

END OF PAPER



ANSWER SHEET

EXAM PAPER 2010

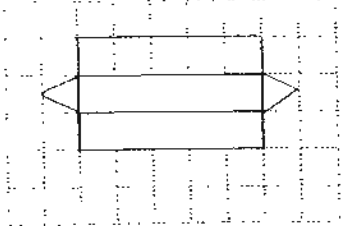
SCHOOL : ROSYTH PRIMARY
SUBJECT : PRIMARY 6 MATHEMATICS

TERM : SA1

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

- 16)2409006 17)999 18)2 19) $\frac{(50-3m)}{2}$ 20)910
- 21)40kg 22)140m² 23)3 24)32cm 25)\$480
- 26)40% 27)250 stickers 28)70 adults 29)385cm²
- 30)\$185

Paper 2

<p>1)a)3 rectangular faces b)</p> <div style="text-align: center;">  </div>	<p>2)1278</p>
<p>3)40%+30%=70% 100% - 70% = 30% 30%-->360g 1%-->12g 100%00>1200g She have 1200g of flour at first.</p>	<p>4)(12) x (12) = 144 Length of square→12 Height of triangle→12 $\frac{1}{2} \times 12 \times X = \frac{1}{2} \times 12X = 6X$ The area of the triangle is 6Xcm²</p>

<p>5)(3k +30)years old</p>	<p>6)a) $7/8 \div 3/28 = 7/8 \times 28/3 = 49/6$ $= 8\frac{1}{6}$ The maximum number of pieces is 8 b) $8 \times 3/28 = 6/7$ $7/8 - 6/7 = 1/56$ The length of the remaining cotton twine is $1/56$m.</p>
<p>7) $\\$210 - \\$54 = \\$156$ 10TS + ?D \rightarrow $\\$156$ 3D + 5TS \rightarrow $\\$54$</p> <p>$\\$6 \times 3 = \\$18$ $\\$54 - \\$18 = \\$36$ $\\$36 \div 5 = \\7.20 (1TS) $\\$7.20 \times 10 = \\72 (10TS) $\\$156 - \\$72 = \\$84$ (?D) $\\$84 \div \\$6 = 14$ (D) $14 + 3 = 17$ She bought 17 dresses in all.</p>	<p>8) $\\$36600 \div 12 = \\3050 $1/4 \times \\$3050 = \\762.50 (family exp) $\\$3050 - \\$762.50 = \\$2287.50$ $1 - 2/5 = 3/5$ $3/5 \times \\$2287.50 = \\1372.50 He is left with $\\$1372.50$</p>
<p>9) $72 - 48 = 24$ $80 - 56 = 24$ $24u \rightarrow \\$24$ $1u \rightarrow \\$1$ $128u \rightarrow \\$128$ The total amount of savings the boys had was $\\$128$.</p>	<p>10) $65\% \times 840 = 546$ (c) $840 - 546 = 294$ (d) $65\% - 55\% = 10\%$ $100\% - 65\% = 35\%$ (ducks at first) $100\% - 55\% = 45\%$ $45\% - 35\% = 10\%$ $840 - 300 = 540$ $55\% \times 540 = 297$ (chickens left) $45\% \times 540 = 243$ (ducks left) $294 - 243 = 51$. He sold 51 ducks.</p>
<p>11) The ratio is 17:8</p>	<p>12)a) $1/5 \times 100\% = 20\%$ $20\% - 18\% = 2\%$ $2\% \times 3600 = 72$ There are 72 fewer participants. b) $56\% + 18\% + 20\% = 94\%$ $100\% - 94\% = 6\%$ $6\% \times 3600 = 216$ 216 participants played Frisbee.</p>

<p>13)a) $4t + 6b = \\$490$ $\\$2000 \div \\$1490 = 4_{4/49}$ sets Siva could buy 4 sets. b) $4t + 6b \rightarrow \\$490$ $14b \rightarrow \\$490$ $\\$490 \div 14 = \\35 (1b) $\\$35 \times 6 = \\210 $\\$490 - \\$210 = \\$280$ (4t) $\\$280 \div 4 = \\70 (1t) $\\$1960 \div \\$70 = 28$ He could buy 28 tables.</p>	<p>14)a) $100\% - 75\% = 25\%$ $0.8 \times 25\% = 20\%$ $20\% \rightarrow 140$ $1\% \rightarrow 7$ $100\% \rightarrow 700$ George has 700 trading cards at first. b) $75\% \times 700 = 525$ (m) $25\% - 20\% = 5\%$ $5\% \times 700 = 35$ (c) $525 - 35 = 490$ $490/35 \times 100\% = 1400\%$ Many received 1400% more than Charlie.</p>
<p>15)a) 1020 b) 6800</p>	<p>16) Quadrant : $\frac{1}{4} \times \pi r^2$ $= \frac{1}{4} \times 22/7 \times 7 \times 7 = 38.5$ Triangle $\rightarrow \frac{1}{2} \times 7 \times 7 = 24.5$ $38.5 - 24.5 = 14$ $14 \times 8 = 112$ The area of the shaded part is 112cm²</p>
<p>17) $48 \div 4 = 12$ $12 \times 3 = 36$ $\pi \times 36 \times 36 = 1296\pi$ (circle) $1/8 \times 1296\pi = 162\pi$ $12 \times 2 = 24$ $\pi \times 24 \times 24 = 576\pi$ $1/8 \times 576\pi = 72\pi$ $\pi \times 48 \times 48 = 2304\pi$ $2304\pi \div 4 = 576\pi$ (quadrant) $162\pi - 72\pi = 90$ (shaded area) $576\pi - 90\pi = 486\pi$ $486\pi = 1526.81403$ $= 1526.81$ (corrected to 2 decimal places) The area of the unshaded part is 1526.81cm²</p>	<p>18) children library $\rightarrow 5u$ children in playground $\rightarrow 6u + (6 \times 7)$ $= 6u + 102$ $6u + 102 = 5u + 156$ $1u \rightarrow 156 - 102 = 54$ children in library $\rightarrow 5 \times 54 = 270$ children in playground $\rightarrow 6 \times 54 + 102 = 426$ Total $\rightarrow 270 + 426 = 696$</p>