Word Problem Worksheet

& Solutions

For Rosyth Paper

P5 Mathematics SA1 2017

Show your working clearly in the space provided for each question and write your answers in the spaces provided.

6. Jane had 70 marbles. $\frac{4}{7}$ of her marbles were green and the rest were red and blue. She had 16 more red marbles than blue marbles. How many red marbles did she have?

Ans: _____

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7. There are more than 38 members in a Chess club. If the pupils are grouped into groups of 6, there will be 2 extra pupils. If they are grouped into groups of 5, there will be 3 extra pupils. If the maximum number of members is 90, how many members were there in the Chess club?

Ans: _____

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8. Betty had some sweets for sale. She sold $\frac{3}{7}$ of the sweets and gave $\frac{5}{8}$ of the remainder to her brother. She had 780 sweets left. How many sweets did she have at first?

Ans: _____

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9. Susan bought some books from a bookshop. If she wanted to buy 9 books, she would be short of $21.75. If she wanted to buy 4 books, she would have $17.50 left. How much money did Susan have at first?

Ans: _____

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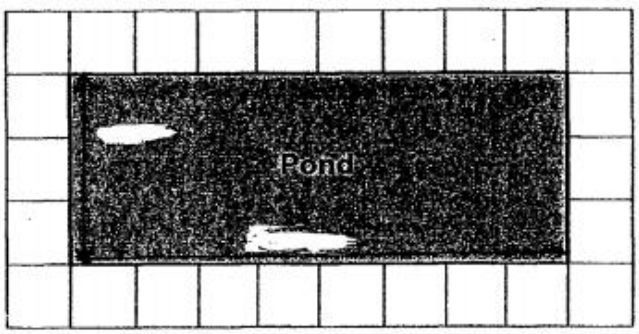
10. The figure below shows a rectangle pond surrounded by 26 identical square tiles. The perimeter of a square tile is 180 cm. Find the shaded area of the rectangular pond.



Ans: _____

11. Daniel had 45 marbles and Jane had 185 marbles. Their father gave each of them an equal number of marbles. After that, Jane had three times as many marbles as Daniel.
    (a) How many marbles did their father give to Daniel?
    (b) In the end, how many marbles did the children have altogether?

Ans: (a) _____

(b) _____

12. The mass of a tin which is $\frac{7}{9}$ filled with rice is 540 g.

After some rice is removed, the tin became $\frac{1}{9}$ filled with rice. The mass of the tin of rice is now 210 g. Find the mass of the empty tin.

Ans: _____

13. The table below shows the length of red string and blue string needed to tie a parcel. Jamie used 8 more pieces of red string than blue string. If the total length of red string and blue string used was 65.9 m, how many pieces of red string did she use?

Red string (1 piece)	Blue string (1 piece)
1.3 m	2.4 m

Ans: _____

14. The average height of 7 pupils is 142 cm. When David and Ahmad's height are included, the average height of the pupils becomes 144 cm. Ahmad is 34 cm shorter than David. What is Ahmad's height in metres?

Ans: _____

15. Alice and Bella went shopping with a total of $480. After Alice spent $\frac{1}{3}$ of her money and Bella spent $95, the amount of money Bella had left was four times that of what Alice has left. How much more money did Bella bring along for shopping than Alice?

Ans: _____

16. James had a bag filled with 20¢ and 50¢ coins. There are 32 more 20¢ coins than 50¢ coins. The value of all the 50¢ coins is $28.40 more than the value of all the 20¢ coins.
    (a) How many 20¢ coins are there in the bag?
    (b) James needs more money to buy a shirt that cost $89.20. How much more money does he need?

Ans: (a) _____

(b) _____

17. Hazim spent $\frac{1}{5}$ of his money and an additional $6 on a book. He then spent $\frac{3}{7}$ of his remaining money and an additional $14 on a bag. He then spent $9 on food and had $25 left. How much money did Hazim have at first?

Ans: _____

Answer Key

Subject: Primary 5 Maths – Word Problem Solutions
Paper: SA1 2017 Rosyth

6. 23
7. 68
8. 3640
9. $48.90
10. 48 600 cm^2
11. a) 25 b) 280
12. 155g
13. 23
14. 1.34m
15. $270
16. a) 148 b) $1.60
17. $112.50

Show your working clearly in the space provided for each question and write your answers in the spaces provided.

6. Jane had 70 marbles. $\frac{4}{7}$ of her marbles were green and the rest were red and blue. She had 16 more red marbles than blue marbles. How many red marbles did she have?

Number of green marbles = $\frac{4}{7}$ x 70 = 40

Number of red and blue marbles = 70 – 40 = 30

Excess = 16

Number of blue marbles = (30 – 16) ÷ 2 = 7

Number of red marbles = 7 + 16 = 23

Ans: 23

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7. There are more than 38 members in a Chess club. If the pupils are grouped into groups of 6, there will be 2 extra pupils. If they are grouped into groups of 5, there will be 3 extra pupils. If the maximum number of members is 90, how many members were there in the Chess club?

Groups of 6	:	42, 48, 54, 60, 66, 72, 78, 84, 90
Plus 2	:	44, 50, 56, 62, ***68,*** 74, 80, 86, 92
Groups of 5	:	40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90
Plus 3	:	43, 48, 53, 58, 63, ***68,*** 73, 78, 83, 88, 93

Members in Chess club = 68

Ans: 68

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8. Betty had some sweets for sale. She sold $\frac{3}{7}$ of the sweets and gave $\frac{5}{8}$ of the remainder to her brother. She had 780 sweets left. How many sweets did she have at first?

Let u = $\frac{1}{56}$

Fraction of sweets sold = $\frac{3}{7}$ = $\frac{24}{56}$ = 24u

Remainder = 56u – 24u = 32u

Number she gave to her brother = $\frac{5}{8}$ x 32u = 20u

Number of sweets left = 56u – 24u – 20u = 12u = 780
u = 780 ÷ 12 = 65
Number of sweets she had at first = 56u = 56 x 65 = 3640

Ans: 3640

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9. Susan bought some books from a bookshop. If she wanted to buy 9 books, she would be short of $21.75. If she wanted to buy 4 books, she would have $17.50 left. How much money did Susan have at first?

Let u = price of 1 book
Difference in amount = 9u – 4u = 5u
= 21.75 + 17.50 = 39.25
5u = 39.25
u = 39.25 ÷ 5 = 7.85

Amount she had at first = 4u + 17.50 = 4 x 7.85 + 17.50 = $48.90

Ans: $48.90

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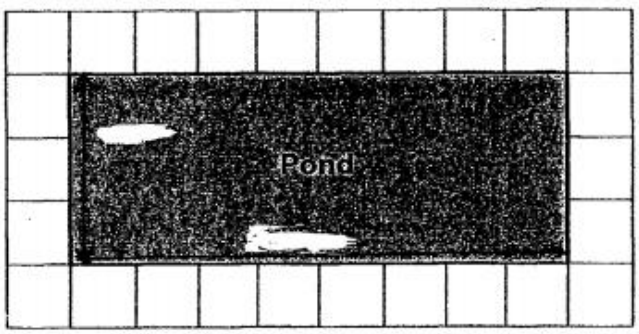
10. The figure below shows a rectangle pond surrounded by 26 identical square tiles. The perimeter of a square tile is 180 cm. Find the shaded area of the rectangular pond.



Length of tile = 180 ÷ 4 = 45 cm
Area of tile = 45 x 45 = 2025 cm^2

Area of pond = 8 x 3 tiles = 24 x 2025 = 48 600 cm^2

Ans: 48 600 cm^2

11. Daniel had 45 marbles and Jane had 185 marbles. Their father gave each of them an equal number of marbles. After that, Jane had three times as many marbles as Daniel.
(a) How many marbles did their father give to Daniel?
(b) In the end, how many marbles did the children have altogether?

(a)
Let u = number of marbles Daniel had at the end
Number of marbles Jane had at the end = 3u
Difference = 3u – u = 2u

Difference between Jane and Daniel's marbles 2u = 185 – 45 = 140
u = 140 ÷ 2 = 70

Number of marbles their father gave to Daniel = 70 – 45 = 25

(b)
Number of marbles at the end = u + 3u = 4u = 4 x 70 = 280

Ans: (a) 25

(b) 280

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12. The mass of a tin which is $\frac{7}{9}$ filled with rice is 540 g.

After some rice is removed, the tin became $\frac{1}{9}$ filled with rice. The mass of the tin of rice is now 210 g. Find the mass of the empty tin.

Let u = $\frac{1}{9}$

Difference in mass before and after = 7u – u = 6u = 540 – 210 = 330

6u = 330

u = 330 ÷ 6 = 55

Mass of rice $\frac{7}{9}$ of rice = 7u = 7 x 55 = 385 g

Mass of empty tin = 540 – 385 = 155g

Ans: 155g

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13. The table below shows the length of red string and blue string needed to tie a parcel. Jamie used 8 more pieces of red string than blue string. If the total length of red string and blue string used was 65.9 m, how many pieces of red string did she use?

Red string (1 piece)	Blue string (1 piece)
1.3 m	2.4 m

Excess red string length = 8 x 1.3 = 10.4m

Let u = number of blue strings
2.4u + 1.3u = 65.9 = 10.4 = 55.5
3.7u = 55.5
u = 55.5 ÷ 3.7 = 15

Number of red strings used = 15 + 8 = 23

Ans: 23

14. The average height of 7 pupils is 142 cm. When David and Ahmad's height are included, the average height of the pupils becomes 144 cm. Ahmad is 34 cm shorter than David. What is Ahmad's height in metres?

Height of Ahmad and David = 144 x 9 -142 x 7 = 302
Excess height = 34
Ahmad's height = (302 – 34) ÷ 2 = 134 cm = 1.34m

Ans: 1.34m

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15. Alice and Bella went shopping with a total of $480. After Alice spent $\frac{1}{3}$ of her money and Bella spent $95, the amount of money Bella had left was four times that of what Alice has left. How much more money did Bella bring along for shopping than Alice?

Let u = amount Alice had left
Amount Bella had left = 4u

At first,
Alice had $\frac{3}{2}$ u
Bella had 4u + 95

$\frac{3}{2}$ u + 4u + 95 = 480
5.5u = 385
u = 385 ÷ 5.5 =70

Difference in amount between that Bella and Alice brought = 4u + 95 – 1.5u =2.5u +95
= 2.5 x 70 + 95 = $270

Ans: $270

16. James had a bag filled with 20¢ and 50¢ coins. There are 32 more 20¢ coins than 50¢ coins. The value of all the 50¢ coins is $28.40 more than the value of all the 20¢ coins.
(a) How many 20¢ coins are there in the bag?
(b) James needs more money to buy a shirt that cost $89.20. How much more money does he need?

(a)
Let u = number of 50¢ coins
Number of 20¢ coins = u + 32

Value of 50¢ coins = 0.5u
Value of 20¢ coins = 0.2u + 0.2x32 = 0.2u + 6.40

Difference in value of coins = 0.5u – 0.2u – 6.4 = 0.3u – 6.4 = 28.40
0.3u = 28.40 + 6.40 = 34.80
u = 34.80 ÷ 0.3 = 116

Number of 20¢ coins = 116 + 32 = 148

(b)
Total value = 116 x 0.5 + 148 x 0.2 = 58 + 29.6 = 87.6
Additional amount James need = 89.20 – 87.6 = $1.60

Ans: (a) 148

(b) $1.60

17. Hazim spent $\frac{1}{5}$ of his money and an additional $6 on a book. He then spent $\frac{3}{7}$ of his remaining money and an additional $14 on a bag. He then spent $9 on food and had $25 left. How much money did Hazim have at first?

Let u = $\frac{1}{7}$

4u of remaining money = 14 + 9 + 25 = 48
u = 12
Remaining money = 7u = 7 x 12 = $84

Let p = $\frac{1}{5}$

4p = 6 + 84 = 90
p = 90 ÷ 4 = 22.5
Money Hazim had at first = 5p = 22.5 x 5 = $112.50

Ans: $112.50