

Word Problem Worksheet
& Solutions
For Nanyang 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. The breadth of a rectangle is $\frac{9}{5}$ m. Its length is $\frac{2}{3}$ m longer than its breadth.
- (a) What is the length of the rectangle? Give your answer as an improper fraction.
- (b) What is the area of the rectangle? Give your answer as a mixed number in the simplest form.

Ans: (a) _____

(b) _____

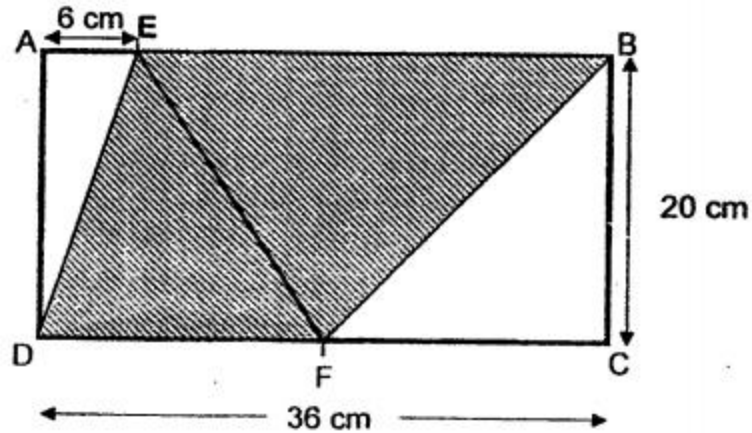
7. A tailor used $2\frac{3}{8}$ m of cloth to make each blouse and use twice as much cloth to make each dress. How much cloth did the tailor use to make 3 blouses and 2 dresses? Give your answer as a mixed number in its simplest form.

Ans: _____

8. Mr Vik bought some bottles of water at \$0.90 each and 12 bottles of fruit juice at \$2.30 each. His sister bought the same number of bottles of water as him but at \$0.50 each. She also bought 12 bottles of fruit juice at \$3 each. They spent the same amount of money. How many bottles of water did Mr Vik buy?

Ans: _____

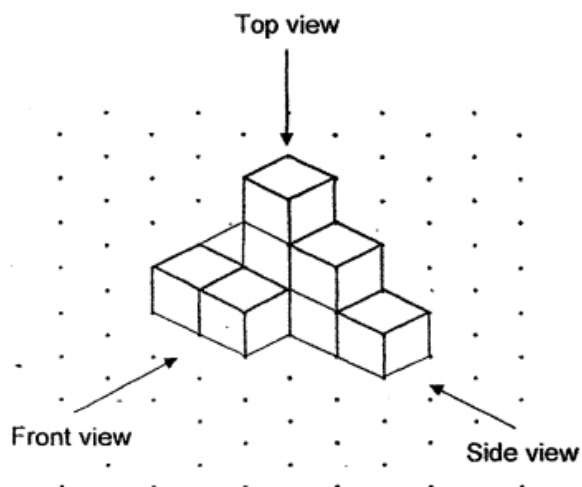
9. In the figure below, the rectangle ABCD is made up of 4 triangles, AED, DEF, EFB and BFC.



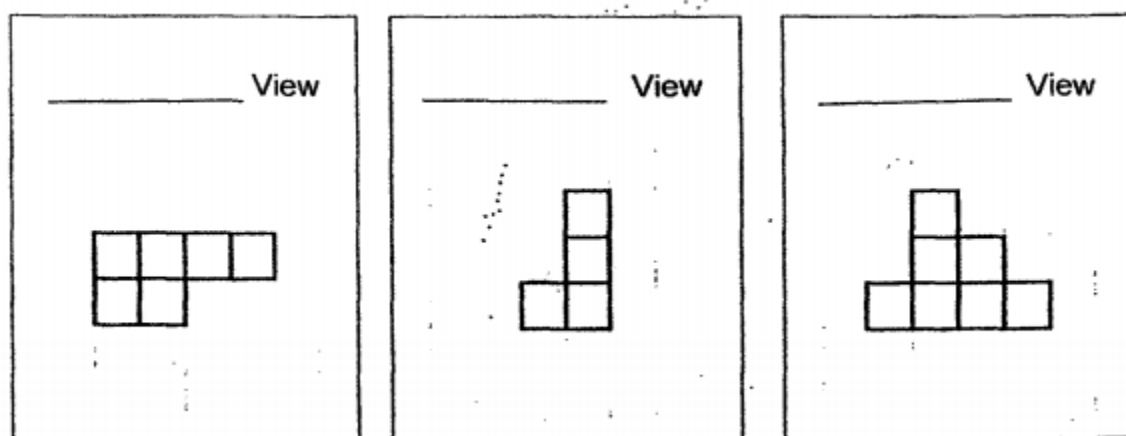
Given that $DF = FC$, find the shaded area.

Ans: _____

10. The solid below is built with unit cubes.



The front view, top view and side view of the solid are drawn in the square grid below. Fill in the blank with Front, Top or Side.



Ans: _____

11. Angela had 3 times as many stickers as Susan at first. Angela then gave 60 stickers to Susan and bought another 18 stickers. Susan bought some stickers for herself after receiving stickers from Angela. Susan then had twice as many stickers as Angela. Susan had 288 stickers in the end. How many stickers did Susan buy?

Ans: _____

12. Mr Tay had fewer than 14 packets of chocolates. Each packet contained 15 pieces of chocolates. He gave away a few packets to his friends before giving an equal number of pieces of chocolates to each of his 38 pupils. He had 6 pieces of chocolates left for himself. What was the greatest number of packets of chocolates he gave to his friends?

Ans: _____

13. In a library, $\frac{3}{5}$ of the books were English books and $\frac{3}{8}$ of the remaining books were Chinese books. The rest were Malay books. There were 133 more English books than Malay books in the library. How many books were there in the library altogether?

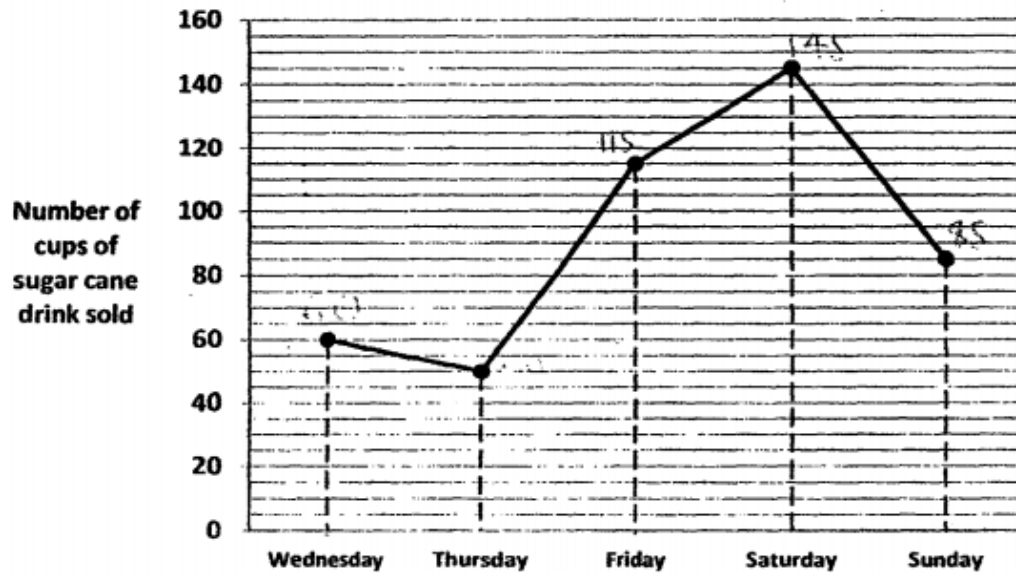
Ans: _____

14. After Raju spent $\frac{5}{8}$ of his money, Mohan spent $\frac{4}{7}$ of his money and Thomas spent \$240, each of them had the same amount of money left. Raju had \$550 more than Mohan at first.
- (a) How much money did Raju have at first?
- (b) How much money did the 3 of them have at first?

Ans: (a) _____

(b) _____

15. The line graph shows the number of cups of sugar cane drink sold each day by Mr Tan from Wednesday to Sunday.



- (a) Mr Tan sold his drink at \$1.50 each from Monday to Friday. How much money did he collect from the sale of the drink on Wednesday and Thursday in all?
- (b) Mr Tan sold his drink at \$2 on Saturday and Sunday. How much more money did he collect from the sale of the drink on Saturday than on Sunday?

Ans: (a) _____

(b) _____

16. The total cost of 8 identical thumbdrives and 6 identical pairs of earphones was \$460.
The total cost of 2 such thumbdrives and 3 such pairs of earphones was \$154.
- (a) How much did a pair of earphone cost?
 - (b) Osman had \$100. At most, how many of such pairs of earphones could he buy with \$100?

Ans: (a) _____

(b) _____

17. Willy, Xavier, Yannis and Zachary shared \$690. Yannis received $\frac{1}{5}$ of the money. Willy received $\frac{1}{5}$ of the total money received by Xavier and Zachary. Xavier received $\frac{9}{11}$ as much money as Zachary.
- (a) How much money did Willy receive?
- (b) How much less money did Yannis receive than Xavier?

Ans: (a) _____

(b) _____

Answer Key

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

6. a) $\frac{37}{15}$ m b) $4\frac{11}{25}$ m²

7. $16\frac{5}{8}$ m

8. 21 bottles

9. 480 cm²

10. Top, Side, Front

11. 226

12. 5 packets

13. 380

14. \$10140

15. a) \$165 b) \$120

16. a) \$26 b) 3

17. a) \$92 b) \$69

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

6. The breadth of a rectangle is $\frac{9}{5}$ m. Its length is $\frac{2}{3}$ m longer than its breadth.
- (a) What is the length of the rectangle? Give your answer as an improper fraction.
 (b) What is the area of the rectangle? Give your answer as a mixed number in the simplest form.

(a) Length of rectangle = $\frac{9}{5} + \frac{2}{3} = \frac{27}{15} + \frac{10}{15} = \frac{37}{15}$ m

(b) Area of rectangle = $\frac{9}{5} \times \frac{37}{15} = \frac{333}{75} = 4 \frac{33}{75} = 4 \frac{11}{25} \text{ m}^2$

Ans: (a) $\frac{37}{15}$ m

(b) $4 \frac{11}{25} \text{ m}^2$

7. A tailor used $2 \frac{3}{8}$ m of cloth to make each blouse and use twice as much cloth to make each dress. How much cloth did the tailor use to make 3 blouses and 2 dresses? Give your answer as a mixed number in its simplest form.

Cloth length to make each dress = $2 \frac{3}{8} \times 2 = \frac{19}{8} \times 2 = \frac{19}{4}$ m

Cloth length to make 2 dresses = $\frac{19}{4} \times 2 = \frac{19}{2}$ m

Cloth length to make 3 blouses = $\frac{19}{8} \times 3 = \frac{57}{8}$ m

Total cloth length = $\frac{19}{2} + \frac{57}{8} = \frac{76}{8} + \frac{57}{8} = \frac{133}{8} = 16 \frac{5}{8}$ m

Ans: $16 \frac{5}{8}$ m

8. Mr Vik bought some bottles of water at \$0.90 each and 12 bottles of fruit juice at \$2.30 each. His sister bought the same number of bottles of water as him but at \$0.50 each. She also bought 12 bottles of fruit juice at \$3 each. They spent the same amount of money. How many bottles of water did Mr Vik buy?

Additional cost paid by sister for fruit juice = $3 - 2.30 = \$0.70$

Total additional cost = $0.70 \times 12 = \$8.40$

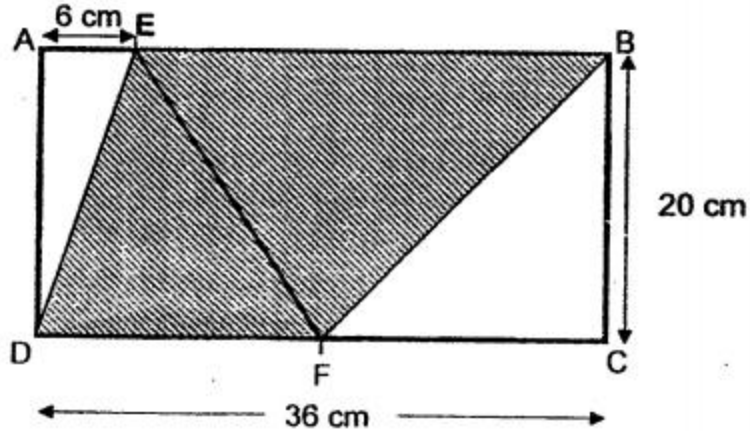
Cost savings his sister had for a water bottle = $\$0.90 - 0.50 = \0.40

Number of water bottle bought by sister = $8.40 \div 0.40 = 21$ bottles

Mr Vik bought 21 bottles.

Ans: 21 bottles

9. In the figure below, the rectangle ABCD is made up of 4 triangles, AED, DEF, EFB and BFC.



Given that $DF = FC$, find the shaded area.

$$EB = 36 - 6 \text{ cm} = 30 \text{ cm}$$

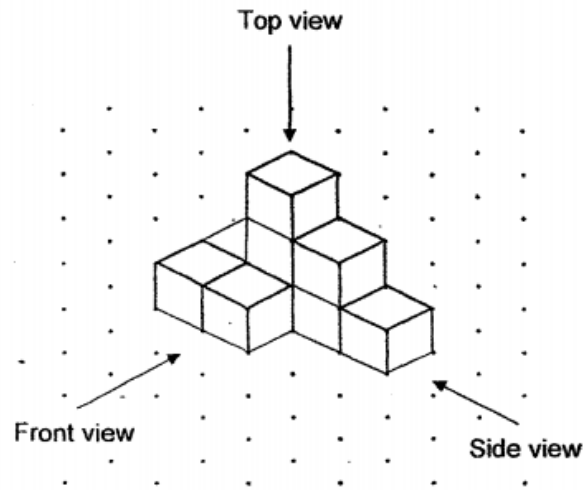
$$\text{Area of EFB} = 30 \times 20 \div 2 = 300 \text{ cm}^2$$

$$\text{Area of DEF} = 18 \times 20 \div 2 = 180 \text{ cm}^2$$

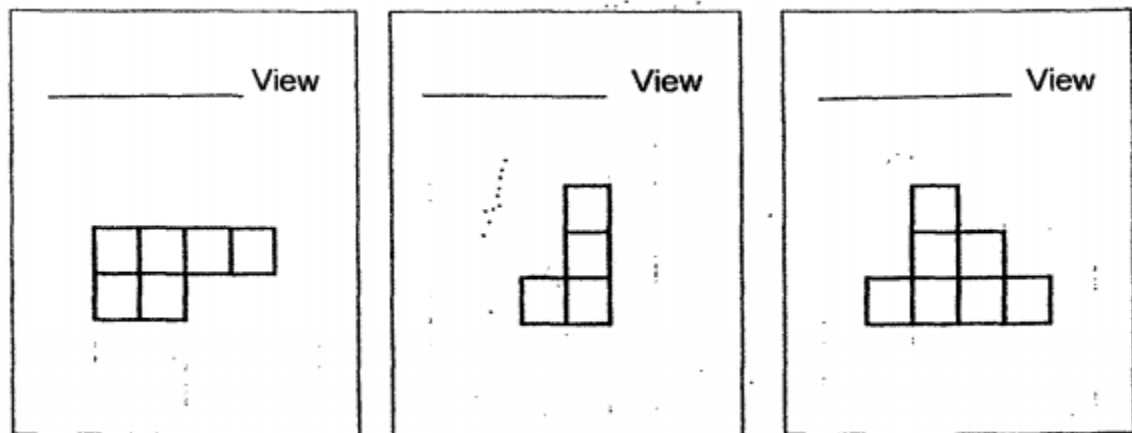
$$\text{Shaded area} = 300 + 180 = 480 \text{ cm}^2$$

Ans: 480 cm^2

10. The solid below is built with unit cubes.



The front view, top view and side view of the solid are drawn in the square grid below. Fill in the blank with Front, Top or Side.



Top

Side

Front

Ans: Top, Side, Front

11. Angela had 3 times as many stickers as Susan at first. Angela then gave 60 stickers to Susan and bought another 18 stickers. Susan bought some stickers for herself after receiving stickers from Angela. Susan then had twice as many stickers as Angela. Susan had 288 stickers in the end. How many stickers did Susan buy?

In the end, number of stickers Angela had = $288 \div 2 = 144$

At first, number of stickers Angela had = $144 + 60 - 18 = 186$

At first, number of stickers Susan had = $186 \div 3 = 62$

Number of stickers Susan bought = $288 - 62 = 226$

Ans: 226 stickers

12. Mr Tay had fewer than 14 packets of chocolates. Each packet contained 15 pieces of chocolates. He gave away a few packets to his friends before giving an equal number of pieces of chocolates to each of his 38 pupils. He had 6 pieces of chocolates left for himself. What was the greatest number of packets of chocolates he gave to his friends?

Number of chocolates per pupil	: 1, 2, 3, 4, 5, 6, 7
Number of chocolates for 38 pupils	: 38, 76, 114, 152, 190, 228, 266
Plus 6 pieces for himself	: 44, 82, <u>120</u> , 158, 196, 234, 272

Number of packets of chocolates	: 8, 9, 10, 11, 12, 13
Number of pieces of chocolates	: <u>120</u> , 135, 150, 165, 180, 195

Greatest number of packets for himself and the pupils = 8

Greatest number of packets for his friends = $13 - 8 = 5$ packets

Ans: 5 packets

13. In a library, $\frac{3}{5}$ of the books were English books and $\frac{3}{8}$ of the remaining books were Chinese books. The rest were Malay books. There were 133 more English books than Malay books in the library. How many books were there in the library altogether?

Let total books = $20u$

Number of English books = $\frac{3}{5} \times 20u = 12u$

Number of Chinese books = $\frac{3}{8} \times 8u = 3u$

Number of Malay books = $5u$

English minus Malay books = $12u - 5u = 133$

$7u = 133$

$u = 19$

Total number of books = $20u = 20 \times 19 = 380$

Ans: 380 books

14. After Raju spent $\frac{5}{8}$ of his money, Mohan spent $\frac{4}{7}$ of his money and Thomas spent \$240, each of them had the same amount of money left. Raju had \$550 more than Mohan at first.

- (a) How much money did Raju have at first?
 (b) How much money did the 3 of them have at first?

Let $8u$ = Raju's initial amount,

$7u$ = Mohan's initial amount

Red → Initial amount

Blue → Final amount

Raju -



Mohan



Thomas



$$8u - 7u = u = 550$$

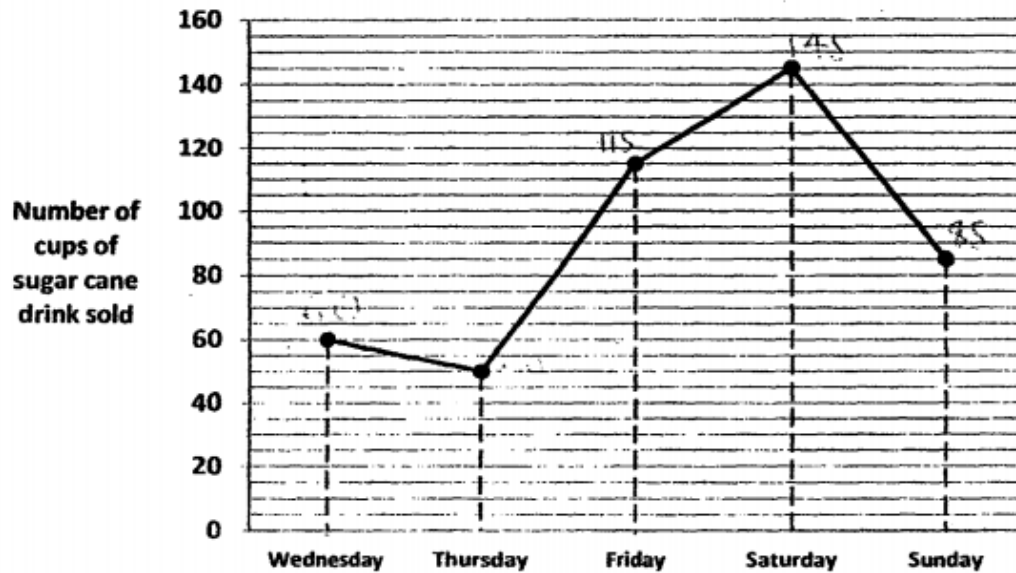
$$\text{Amount Raju had at first} = 8u = 8 \times 550 = \$4400$$

$$\text{Total amount of 3 of them} = 8u + 7u + 3u + 240 = 18u + 240 = 18 \times 550 + 240 = \$10140$$

Ans: (a) \$4400

(b) \$10140

15. The line graph shows the number of cups of sugar cane drink sold each day by Mr Tan from Wednesday to Sunday.



- (a) Mr Tan sold his drink at \$1.50 each from Monday to Friday. How much money did he collect from the sale of the drink on Wednesday and Thursday in all?
- (b) Mr Tan sold his drink at \$2 on Saturday and Sunday. How much more money did he collect from the sale of the drink on Saturday than on Sunday?
- (a) Number of cups sold on Wednesday and Thursday = $60 + 50 = 110$
 Total sales on Wednesday and Thursday = $110 \times 1.5 = \$165$
- (b) Additional number of cups sold on Saturday vs Sunday = $145 - 85 = 60$
 Additional sales on Saturday vs Sunday = $60 \times 2 = \$120$

Ans: (a) \$165

(b) \$120

16. The total cost of 8 identical thumbdrives and 6 identical pairs of earphones was \$460.
The total cost of 2 such thumbdrives and 3 such pairs of earphones was \$154.
(a) How much did a pair of earphone cost?
(b) Osman had \$100. At most, how many of such pairs of earphones could he buy with \$100?

8 thumbdrives and 6 earphones cost \$460 (1)
2 thumbdrives and 3 earphones cost \$154

4 thumbdrives and 6 earphones cost \$308 (2)

4 thumbdrives $\rightarrow 460 - 308 = 152$ (1) – (2)
1 thumbdrive $\rightarrow 152 \div 4 = \38

6 earphones $\rightarrow 308 - 152$ Substitute earphone cost to (2)
1 earphone $\rightarrow 156 \div 6 = \26

Number of earphones Osman could buy = $100 \div 26 \approx 3$

Ans: (a) \$26

(b) 3 earphones

17. Willy, Xavier, Yannis and Zachary shared \$690. Yannis received $\frac{1}{5}$ of the money. Willy received $\frac{1}{5}$ of the total money received by Xavier and Zachary. Xavier received $\frac{9}{11}$ as much money as Zachary.

(a) How much money did Willy receive?

(b) How much less money did Yannis receive than Xavier?

$$\text{Let total money} = 5u = 690$$

$$u = 690 \div 5 = \$138$$

$$\text{Amount Yannis received} = \frac{1}{5} \times 5u = u = \$138$$

$$\text{Remainder} = 690 - 138 = \$552$$

$$\text{Let } 5p + 1p = 6p = 552$$

$$p = 552 \div 6 = \$92$$

$$\text{Amount Willy receive} = \$92$$

$$\text{Remainder for Xavier and Zachary} = 552 - 92 = \$460$$

$$\text{Let } 9x + 11x = 460$$

$$20x = 460$$

$$x = 460 \div 20 = \$23$$

$$\text{Amount Xavier received} = 9x = 9 \times 23 = \$207$$

$$\text{Difference between Yannis and Xavier's amounts} = 207 - 138 = \$69$$

Ans: (a) \$92

(b) \$69
