

81.2 PS



1) Would you prefer 5^3 pounds or 2^7 pounds?

2) Isabel paid for 3 cups of hot chocolate, each costing £1.85, with a £20 note.
How much change should she receive?

3) Is 647 in the sequence 5, 8, 11, 14, ... ?

82.1 PS



- 1) I have two digits.
One of my factors is 3.
I am not a multiple of 8.
I am an even number.
I am a square number.

What number am I?

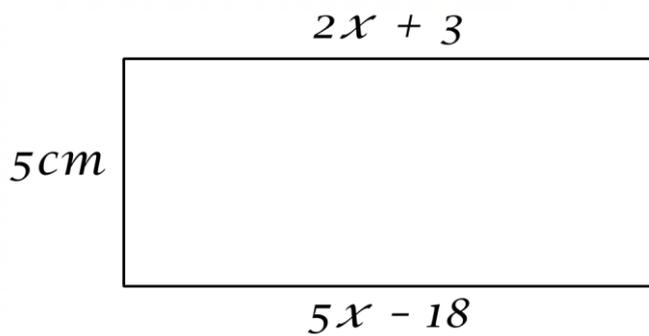
- 2) A bicycle wheel moves through a distance of approximately $3\frac{1}{7}$ times its diameter in one revolution. If its diameter is 56cm, what is this distance? Josie counts her front wheel doing 500 revolutions. How far has she cycled at that time?

- 3) I think of a number, multiply it by 3 and add 4. The result is 16 less than 5 times the original number. What was the original number? (Let the original number be x)



- 1) Express 324 as a product of its prime factors, and hence show that it is a square number and find its square root.

- 2) Find the area of this rectangle:

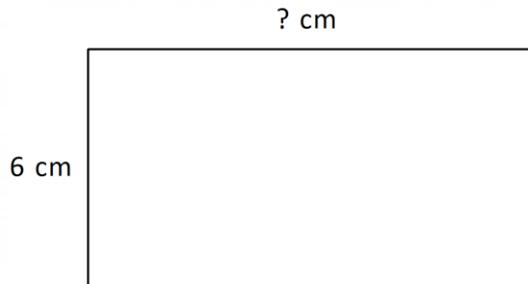


- 3) Miss Bowen, Mr Hall and Mrs Jacobs own shares in a business. Miss Bowen owns $\frac{2}{5}$ of it. Mr Hall owns $\frac{2}{7}$ of it. Mrs Jacobs owns the rest. What fraction of the business does she own?



- 1) Tamsin and Abi make £34.71 from a cake sale. They split the money between two charities in the ratio 2 : 1
How much does each charity get?

- 2) The area of this rectangle is $12x + 18$
What is its length?



- 3) Rhamel is getting some snacks for a party.
 $\frac{2}{3}$ of his guests are vegetarian. Of those, $\frac{1}{4}$ are vegan.
What fraction of all his guests are vegan?

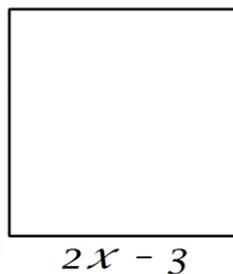
84.1 PS



- 1) The mean of five number is 6.
The range is 8
The mode is 2
The median is 7
What are the five numbers?

- 2) Freya wants to find two 2-digit numbers whose product is 234
Use prime factorisation to help her.

- 3) The perimeter of this square is 28cm
Find the value of x



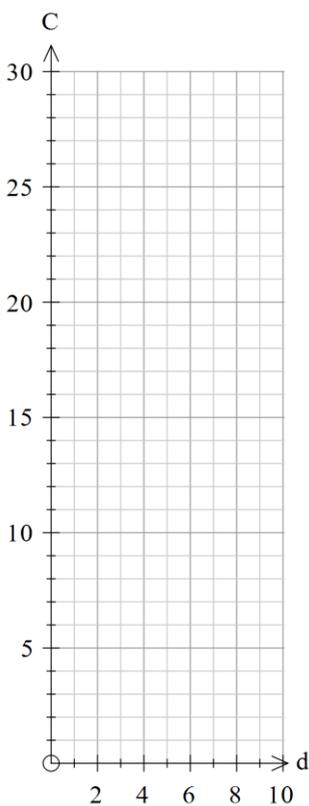


1) Which is bigger 16% of £40 or 40% of £16?

2) Morgan says that if she doubles her age and subtracts 5 she gets Tasha's age. How would Tasha say that she can get Morgan's age?

3) The formula to work out the cost of a taxi ride is $C = 3d + 5$ where C is the cost in pounds and d is the distance in miles. What is the call out charge and how much would a journey of 6 miles cost?

Draw a graph showing the costs for different distances



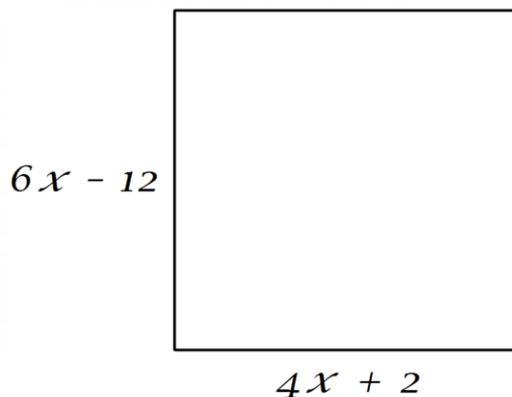
85.1 PS



1) Ebony got eleven marks out of fifteen in a test. 70% was required to get an achievement point. Was she successful?

2) Will and Lennon set out to walk $8\frac{1}{2}$ miles. How much further did they have to walk after they had walked $5\frac{2}{3}$ miles?

3) This shape is a square with two sides marked with an expression for the length. Find the value of x and the area of the square.



85.2 PS

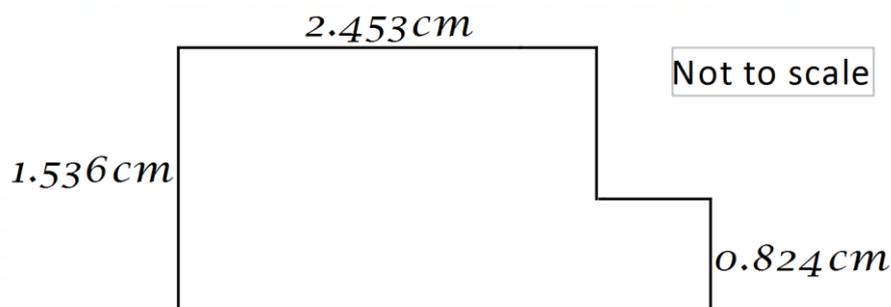


- 1) Show that the 20th term in each of the following two sequences is the same:

8, 14, 20, 26, ... and 46, 50, 54, 58, ...

- 2) Holly wants to find 16% of £25. She says it's the same as 25% of £16. Is she correct?

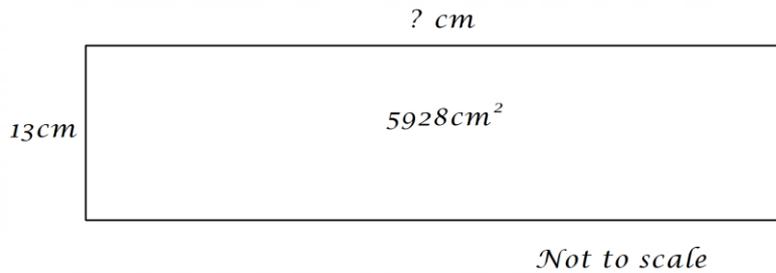
- 3) A square is attached to a rectangle as shown in the diagram. Round every length to 1 decimal place to work out an approximation for the total area of the shape (without using a calculator).



86.1 PS



- 1) What is the length of this rectangle if the area is 5928cm^2 ?



- 2) The 10th term of this sequence 3, 7, 11, 15, ... is the same as which term of this different sequence 7, 9, 11, 13, ... ?

- 3) Which of these two dogs eats more tins of food a day?

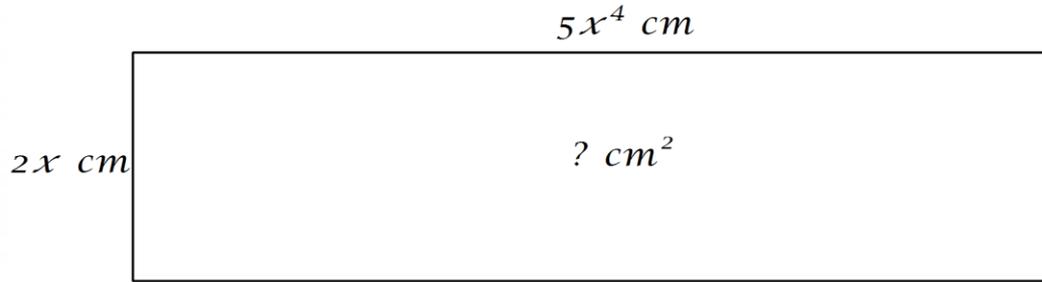
Nero eats 10 cans each week and Zeno eats 3 cans in two days.

Roughly, how many will each eat in a year?

86.2 PS



- 1) Write the area of this rectangle as an expression of x ?



- 2) Steve sets out on a $3\frac{1}{2}$ mile walk.

After $2\frac{1}{3}$ mile, he gets a blister. How much further does he have to walk to get to the end?

- 3) The perimeter of both these regular shapes are the same.

What is the value of x ?

