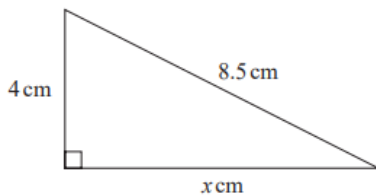


Edexcel GCSE Mathematics Calculator 2022 Higher Paper 3 Revision Worksheet

Questions

1. Here is a right-angled triangle. The two shorter sides are 4 cm and 8.5 cm. Work out the length of the hypotenuse, x .



$$x =$$

2. $T = 4m^2 - 11$

- (a) Work out the value of T when $m = -3$.

$$T =$$

- (b) Make p the subject of the formula $d = 3p + 4$.

$$p =$$

3. Rick, Selma and Tony are playing a game with counters. Rick has some counters. Selma has twice as many counters as Rick. Tony has 6 counters less than Selma. In total they have 54 counters. The number of counters Rick has : the number of counters Tony has = 1 : p . Work out the value of p .

$$p =$$

4. Jo is going to buy 15 rolls of wallpaper. Here is some information about the cost of rolls of wallpaper from each of two shops:

Chic Decor: 3 rolls for £36

Style Papers: Pack of 5 rolls, normal price £70, 12% off the normal price

Jo wants to buy the 15 rolls of wallpaper as cheaply as possible. Should Jo buy the wallpaper from Chic Decor or from Style Papers? You must show how you get your answer

5.

The table gives information about the lengths, in cm, of some pieces of string.

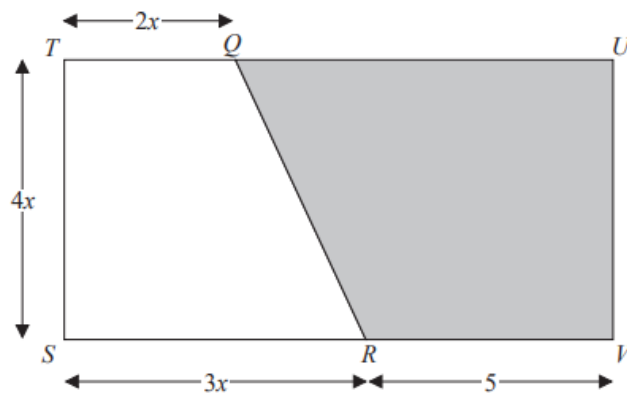
Length (t cm)	Frequency
$0 < t \leq 10$	15
$10 < t \leq 20$	20
$20 < t \leq 30$	50
$30 < t \leq 40$	25
$40 < t \leq 50$	5

Amos draws a frequency polygon for the information in the table. Write down two mistakes that Amos has made.

6. Jessica runs for 15 minutes at an average speed of 6 miles per hour. She then runs for 40 minutes at an average speed of 9 miles per hour. It takes Amy 45 minutes to run the same total distance that Jessica runs. Work out Amy's average speed. **Give your answer in miles per hour.**

7.

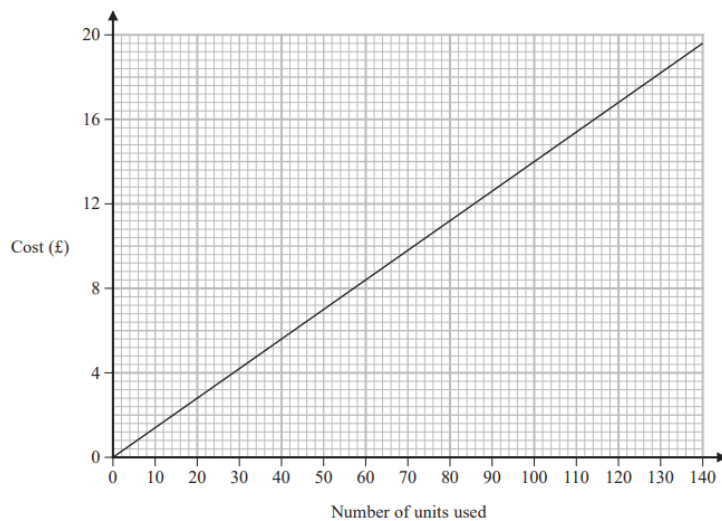
The diagram shows rectangle $STUV$.
 TQU and SRV are straight lines.
All measurements are in cm.



The area of trapezium $QUVR$ is $A \text{ cm}^2$

Show that $A = 2x^2 + 20x$

8. An electricity company charges the same fixed amount for each unit of electricity used. David uses this graph to work out the total cost of the electricity he has used.



- (a) Work out the gradient of the straight line.
(b) What does the gradient of this line represent?
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9. (a) Express $\frac{10^{10}}{10^3 \times 10^9}$ as a power of 10.

(b) Liam was asked to express $(12^5)^2$ as a power of 12. Liam wrote $(12^5)^2 = 12^{5 \times 2} = 12^{10}$. Explain why Liam's method is wrong.

10. Jane bought a new car three years ago. At the end of the first year the value of the car had decreased by 12.5%. The value of the car then decreased by 10% each year for the next two years.

At the end of the three years, the value of the car was £17,010. **Work out the value of the car when Jane bought it three years ago.**

11. Rayheem has 16 shirts, 5 pairs of jeans, and 3 jackets. An outfit is 1 shirt, 1 pair of jeans and 1 jacket. Work out how many different outfits Rayheem can choose.
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12. L is the straight line with equation $y = 2x - 5$

C is a graph with equation $y^2 = 6x^2 - 25x - 8$

Using algebra, find the coordinates of the points of intersection of L and C . You must show all your working.