

Code Breaker: Direct and Inverse Proportion

The Maths Habit



CRACK THE CODE

The symbol $\propto$ means "is proportional to". Write the formula with k , find k , then answer the question on the tile. Every value of x is positive. Look your answer up in the **Code Box** and write the letter it unlocks in the white box. Collect all thirteen letters in the strip, then unscramble them to find the answer.

13
CLUES



1 $y \propto x$ $y = 36 \text{ when } x = 4$ Find k	2 $y \propto x$ $y = 14 \text{ when } x = 4$ Find y when $x = 10$	3 $y \propto x$ $y = 21 \text{ when } x = 6$ Find x when $y = 56$	4 $y \propto x^2$ $y = 50 \text{ when } x = 5$ Find y when $x = 3$
5 $y \propto x^2$ $y = 12 \text{ when } x = 2$ Find x when $y = 75$	6 $y \propto \frac{1}{x}$ $y = 8 \text{ when } x = 6$ Find k	7 $y \propto \frac{1}{x}$ $y = 12 \text{ when } x = 5$ Find y when $x = 15$	8 $y \propto \frac{1}{x}$ $y = 9 \text{ when } x = 4$ Find x when $y = 3$
9 $y \propto \sqrt{x}$ $y = 15 \text{ when } x = 9$ Find y when $x = 64$	10 $y \propto \sqrt{x}$ $y = 6 \text{ when } x = 4$ Find x when $y = 21$	11 $y \propto \frac{1}{x^2}$ $y = 10 \text{ when } x = 3$ Find y when $x = 5$	12 a stone falls d metres in t seconds $d \propto t^2$ $d = 20 \text{ when } t = 2$ Find d when $t = 3$
13 $y \propto \frac{1}{x^2}$ $y = 5 \text{ when } x = 4$ Find k	YOUR LETTERS UNSCRAMBLE Clue: goes with a cup of tea (6, 7) _____		

CODE BOX

3.6 = C

4 = E

5 = B

5.6 = U

6 = P

7 = D

9 = I

12 = G

16 = T

18 = I

20 = H

25 = M

30 = L

35 = G

36 = N

40 = I

45 = S

48 = U

49 = R

80 = N

