



THIRD SPACE
LEARNING

GCSE Exam Questions

Direct and Inverse Proportion |
Ratio & Proportion

GCSE Exam Questions: Direct and Inverse Proportion

- 1) It takes 4 people 2 days to landscape a garden.

How long would it take for 2 people to landscape the same garden?

(2 marks)

- 2) y is directly proportional to x . When $y = 36$, $x = 4$.

(a) Find a formula for y in terms of x .

(3)

(b) Find the value of y when $x = 3$

(1)
(4 marks)

GCSE Exam Questions: Direct and Inverse Proportion

- 3) x is inversely proportional to the square of m .

When $x = 7$, $m = 2$

Find the value of m when $x = 112$.

(4 marks)

- 4) p is directly proportional to \sqrt{q} . r is inversely proportional to p^3

When $q = 49$, $p = 35$.

When $p = 2$, $r = 16$.

Find the value of r when $q = 4$.

(6 marks)

GCSE Exam Questions: Direct and Inverse Proportion Answers

	Question	Answer	Marks
1)	It takes 4 people 2 days to landscape a garden. How long would it take for 2 people to landscape the same garden?	$4 \times 2 = 8$ $8 \div 2 = 4$ days	(1) (1)
2) (a)	y is directly proportional to x . When $y = 36, x = 4$ Find a formula for y in terms of x .	(a) $y = kx$ $4k = 36$ or $k = 9$ $y = 9x$	(1) (1) (1)
(b)	Find the value of y when $x = 3$	(b) $y = 27$	(1)
3)	x is inversely proportional to the square of m When $x = 7, m = 2$ Find the value of m when $x = 112$.	$x = \frac{k}{m^2}$ $k = 28$ or $x = \frac{28}{m^2}$ $m = \sqrt{\frac{28}{112}}$ $m = 0.5$	(1) (1) (1) (1)
4)	p is directly proportional to \sqrt{q} r is inversely proportional to p^3 When $q = 49, p = 35$ When $p = 2, r = 16$ Find the value of r when $q = 4$	$k_1 = \frac{35}{\sqrt{49}} = 5$ $p = 5\sqrt{q}$ $k_2 = 2^3 \times 16 = 128$ $r = \frac{128}{p^3}$ $p = 5 \times \sqrt{4} = 10, r = \frac{128}{10^3}$ $r = 0.128$	(1) (1) (1) (1) (1) (1)

Where to go next?

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