



DIRECT AND INVERSE PROPORTION

QUESTION 1

Here is a table of values of x and y .

x	3	6	9	12
y	0	6	12	18

Nelly says that y is directly proportional to x because the value of y increases by 6 as the value of x increases by 3

- (a) Is Nelly correct?
You must give a reason for your answer.

.....

.....

.....

(1)

w is inversely proportional to the square root of t .

$w = 17$ when $t = 64$

- (b) (i) Calculate the value of w when $t = 72.25$

$w =$

(3)

QUESTION 2

g is inversely proportional to h^2

$g = 2.5$ when $h = 10$

(a) Find an equation for g in terms of h .

.....
(2)

(b) Find the positive value of h when $g = 8$
Give your answer correct to 2 significant figures.

$h =$
(2)

Question 3

y is proportional to x^3

$y = 1$ when $x = 0.5$

x is inversely proportional to w^2

$x = 25$ when $w = 0.4$

Find the value of y when $w = 2$

$y =$
(5 marks)

Question 4

y is directly proportional to x .

$y = 36$ when $x = 1.2$

Work out the value of y when $x = 4$

$y = \dots\dots\dots$ **(3)**

Question 5

a is inversely proportional to b

Complete the table of values.

b	100	25		5
a	2		20	

(3 marks)

Question 6

y is directly proportional to the square root of t .

$y = 12$ when $t = 16$

t is inversely proportional to the cube of x .

$t = 2$ when $x = 2$

Find a formula for y in terms of x .

Give your answer in its simplest form.

(4)

Question 7

x is directly proportional to the square of y .

y is inversely proportional to z .

$$z = 2 \text{ when } x = 7$$

Find a formula for x in terms of z .

.....
(4 marks)

Question 8

x is proportional to \sqrt{y} where $y > 0$

y is increased by 96%

Work out the percentage increase in x .

.....(3)

Question 9

y is inversely proportional to the square of x .

$$y = 8 \text{ when } x = 1.5$$

Find the negative value of x when $y = \frac{1}{2}$

(3)

