

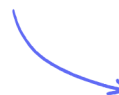
Non-Calculator Questions

Proportion

Direct Proportion / Inverse Proportion

Medium (3 questions)	/9
Hard (4 questions)	/10
Very Hard (4 questions)	/12
Total Marks	/31

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Medium Questions

1 $y \propto \frac{1}{\sqrt{x}}$

When $y = 8$, $x = 4$.

Find y when $x = 49$.

$y = \dots\dots\dots$

(3 marks)

2 y is directly proportional to the square root of x .

When $x = 9$, $y = 6$.

Find y when $x = 25$.

$y = \dots\dots\dots$

(3 marks)

3 y is inversely proportional to x .

When $x = 9$, $y = 8$.

Find y when $x = 6$.

$y = \dots\dots\dots$

(3 marks)

Hard Questions

- 1 y is directly proportional to $(x - 4)$.
When $x = 16$, $y = 3$.

Find y in terms of x .

$$y = \dots\dots\dots$$

(2 marks)

- 2 y is inversely proportional to x^3 .
When $x = 2$, $y = 0.5$.

Find y in terms of x .

$$y = \dots\dots\dots$$

(2 marks)

- 3 y is directly proportional to $(x - 1)^2$.
When $x = 3$, $y = 24$.

Find y when $x = 6$.

$$y = \dots\dots\dots$$

(3 marks)

- 4 x is proportional to $\sqrt{y}$.

y is increased by 21%.

Work out the percentage increase in x .

(3 marks)

Very Hard Questions

- 1 m is inversely proportional to the square of $(p - 1)$.

When $p = 4$, $m = 5$.

Find m when $p = 6$.

$m =$

(3 marks)

- 2 y is inversely proportional to the square root of $(x + 1)$.

When $x = 8$, $y = 2$.

Find y when $x = 99$.

$y =$

(3 marks)

- 3 y is inversely proportional to $(x + 3)^2$

When $x = 2$, $y = 8$.

Find y when $x = 7$.

$y =$

(3 marks)

4 y is inversely proportional to the square of $(x + 2)$.

When $x = 3$, $y = 2$.

Find y when $x = 8$.

$y =$

(3 marks)