

m8 = 30 days to go!

$$A \propto B$$

proportional $A \propto B$

6 s is directly proportional to the square of v .

When $v = 20$, $s = 250$

Express s in terms of v .

$$s \propto v^2$$

$$s = kv^2$$

$$250 = k \cdot 20^2$$

$$250 = 400k$$

$$\frac{5}{8} = k$$

inversely
proportional

$$A \propto \frac{1}{B}$$

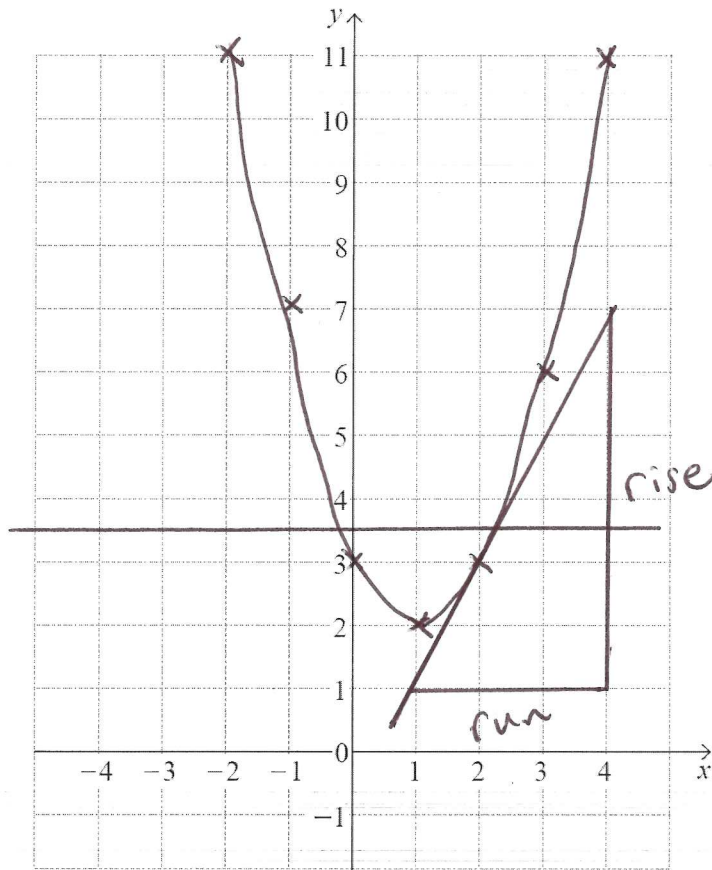
Answer

$$s = \frac{5}{8} v^2$$

[3]

Replace the \propto pringle sign

with $= k$



| x | y |
|----|----|
| -2 | 11 |
| -1 | 7 |
| 0 | 3 |
| 1 | 2 |
| 2 | 3 |
| 3 | 6 |
| 4 | 11 |

smooth curves

(a) Draw the graph of $y = x^2 - 2x + 3$ for $-2 \leq x \leq 4$ on the grid above. [2]

(b) Use your graph to find the gradient of the curve when $x = 2$

$$m = \frac{\text{rise}}{\text{run}} = \frac{6}{3} = 2$$

Answer 2 [2]

(c) By drawing an appropriate line solve $2x^2 - 4x - 1 = 0$

$$x^2 - 2x + 3 \quad 2(x^2 - 2x - 0.5) = 0$$

Line $y = 3.5$ Answer -0.3 and 2.3 [2]

(d) What line would you draw on your graph to solve the equation $x^2 + 12x + 4 = 0$?

$$x^2 + 12x + 4 = 0$$

$$x^2 - 2x + 3 = -14x - 1$$

Answer $y = -14x - 1$ [2]