Gradient and intercepts

6 questions | 13 marks

Equivalent correct methods earn the corresponding marks.

1. Find the gradient through $(1, 2)$ and $(5, 10)$. [2 marks]

$\frac{10-2}{5-1} = \frac{8}{4} = 2$.

Answer: 2

2. Find the gradient through $(-3, 6)$ and $(1, -2)$. [2 marks]

$\frac{-2-6}{1+3} = \frac{-8}{4} = -2$.

Answer: -2

3. Find both intercepts of $2x + 5y = 20$. [2 marks]

For $y = 0$, $x = 10$. For $x = 0$, $y = 4$.

Answer: $(10, 0)$ and $(0, 4)$.

4. State the gradient of $y = 8$ and the gradient of $x = -2$. [2 marks]

A horizontal line has no vertical change. A vertical line has zero horizontal change, so the ratio is undefined.

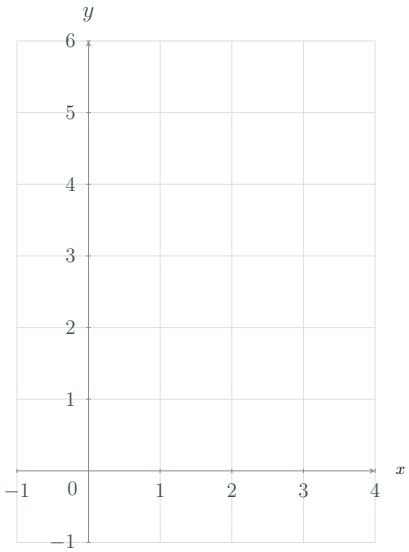
Answer: 0; undefined.

5. In $C = 15 + 2.4h$, where C is dollars and h is hours, interpret the gradient. [2 marks]

Each extra hour adds 2.4 dollars.

Answer: 2.40 dollars per hour.

6. A line passes through $(0, 5)$ and $(2, 1)$. Find its x-intercept. Sketch the line and label both axis intercepts. [3 marks]



The gradient is $\frac{1-5}{2} = -2$, so $y = -2x + 5$.

Set $y = 0$ to get $x = \frac{5}{2}$.

Answer: $(2.5, 0)$.