# Gradient/intercepts

6 questions | 12 marks

Equivalent correct methods earn the corresponding marks.

**1.** Find gradient through $(2, 5)$ and $(6, 17)$. [2 marks]

$m = \frac{(17-5)}{(6-2)} = \frac{12}{4} = 3$.

**Answer:** 3.

**2.** Find gradient through $(1, 11)$ and $(5, 3)$. [2 marks]

$m = \frac{(3-11)}{(5-1)} = -\frac{8}{4} = -2$.

**Answer:** $-2$.

**3.** Find gradient and $y$-intercept of $3x + y = 12$. [2 marks]

Rearrange to $y = -3x + 12$.

**Answer:** Gradient $-3$; $y$-intercept 12.

**4.** Find both intercepts of $y = 2x - 6$. [2 marks]

At $x = 0$, $y = -6$.

At $y = 0$, $2x = 6$.

**Answer:** $(0, -6)$ and $(3, 0)$.

**5.** A cost graph has gradient 4.5 dollars/km and $y$-intercept 9 dollars. Interpret both. [2 marks]

The intercept is cost at zero distance.

The gradient is the charge for one extra kilometre.

**Answer:** A fixed fee of 9 dollars plus 4.50 dollars/km.

**6.** What is the gradient of $x = 4$? [2 marks]

All points have zero horizontal change.

The ratio would require division by zero.

**Answer:** Undefined; no finite gradient.