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]

$(10 - 2)/(5 - 1) = 8/4 = 2$.

Answer: 2

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

$(-2 - 6)/(1 + 3) = -8/4 = -2$.

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.

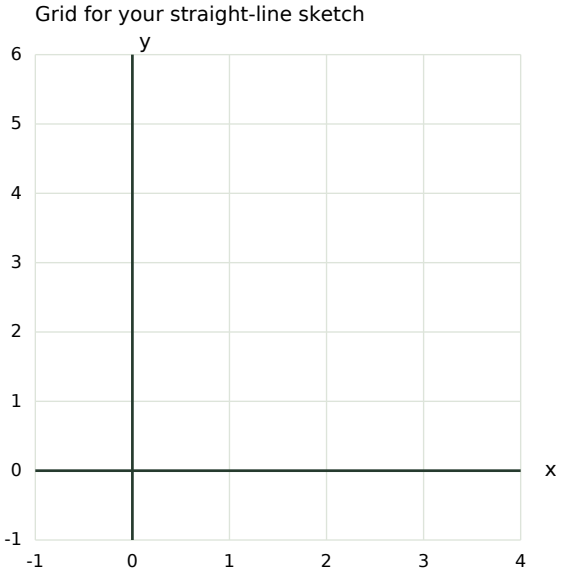
Answer: 0; undefined.

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 (1-5)/2=-2, so y=-2x+5.

Set y=0 to get x=5/2.

Answer: (2.5,0).