Solutions

Award method and answer marks as indicated; accept equivalent correct methods.

2.1

- Run 4, rise 8: $m = 8/4 = \mathbf{2}$.

2.2

- Run 3, fall 6: $m = -6/3 = \mathbf{-2}$.

2.3

- $m = 5/10 = \mathbf{0.5}$.

2.4

- The rise is zero for any nonzero run: $\mathbf{0}$.

3.1

(a)

- **Ruled line through A and B**, extended over the plotted grid.

(b)

- From A to B, **run 6, rise 3** units.

(c)

- $m = 3/6 = \mathbf{0.5}$; positive because the line rises to the right.

3.2

(a)

- From the grid, run is **8** and signed rise $\mathbf{-4}$.
- Use $m = \text{rise/run}$, so $m = -4/8 = \mathbf{-1/2}$.

(b)

- From A to B, run 4 and rise -2 give $m = -2/4 = \mathbf{-1/2}$.
- Both triangles lie on the same straight line, whose gradient is constant.
- A horizontal line has gradient $\mathbf{0}$.

3.3

- Gradient $= \dfrac{\text{rise}}{\text{run}} = \dfrac{11-2}{4-1}$.
- This gives $\dfrac{9}{3} = \mathbf{3}$.

3.4

(a)

- Gradient $= \dfrac{\text{rise}}{\text{run}} = \dfrac{-2-6}{2-(-2)} = \dfrac{-8}{4}$.
- $\mathbf{-2}$; the line goes down from left to right.

(b)

- Parallel lines have equal gradients: $\mathbf{-2}$.