# Movement on coordinate grids

6 questions | 10 marks

Equivalent correct methods earn the corresponding marks.

**1.** Start at $(2, 3)$. Move 2 right. Give the new coordinates. [1 mark]

x becomes $2 + 2 = 4$; y stays 3.

**Answer:** $(4, 3)$

**2.** Start at $(4, 5)$. Move 3 down. Give the new coordinates. [1 mark]

y becomes $5 - 3 = 2$; x stays 4.

**Answer:** $(4, 2)$

**3.** Start at $(1, 1)$. Move right 3, up 4, then left 2. Find the endpoint. [2 marks]

$(1, 1) \to (4, 1) \to (4, 5) \to (2, 5)$.

**Answer:** $(2, 5)$

**4.** Give horizontal and vertical directions from $A(2, 5)$ to $B(6, 2)$. [2 marks]

$6 - 2 = 4$ right; $5 - 2 = 3$ down.

**Answer:** 4 right and 3 down, in either order.

**5.** A robot moves right 2 and down 3, finishing at $(5, 1)$. Find its start. [2 marks]

Undo down 3 by going up 3, then undo right 2 by going left 2.

**Answer:** $(3, 4)$

**6.** Two routes go from $(1, 1)$ to $(4, 3)$. A goes right 3 then up 2; B goes up 2 then right 3. Compare their lengths along grid lines. [2 marks]

Each uses 3 horizontal steps and 2 vertical steps: $3 + 2 = 5$.

**Answer:** Both routes are 5 units long.