Identifying positions using three coordinates

6 questions | 12 marks

Equivalent correct methods earn the corresponding marks.

1. Read the x-, y- and z-coordinates of $(2, 5, 1)$. [2 marks]

Read entries from first to third.

Answer: $x = 2$, $y = 5$, $z = 1$.

2. A drone is 4 units across, 2 units back and 3 units high. Write its position as (x, y, z). [2 marks]

Across is x, depth is y and height is z.

Answer: $(4, 2, 3)$

3. Which is on the floor $z = 0$: $A(1, 0, 2)$, $B(3, 4, 0)$ or $C(0, 2, 1)$? [2 marks]

B has third coordinate zero.

Answer: B.

4. Describe $(-2, 1, 3)$ using the positive axis directions as reference. [2 marks]

The minus sign belongs only to x.

Answer: 2 units in negative x, 1 in positive y and 3 in positive z.

5. Are $(2, 3, 4)$ and $(2, 4, 3)$ the same point? Explain. [2 marks]

The entries have a fixed order; swapping entries changes the location.

Answer: No. They have different y- and z-coordinates.

6. Which axis contains $(0, 0, 5)$? [2 marks]

Both horizontal entries are zero; only z varies.

Answer: The z-axis.