

Context



A park designer has mapped three points on a Cartesian grid to mark the corners of a triangular garden:

- A(-4, 2)
- B(3, 7)
- C(6, -1)

Use the distance formula to find each side length, then the total perimeter.

Distance formula: $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

Questions

1. Find the length of AB . Show your working.
2. Find the length of BC . Show your working.
3. Find the length of CA . Show your working.
4. Find the total perimeter of $\triangle ABC$. Give your answer to 1 decimal place and include units.

Extension: The map uses a scale of 1 unit = 1.5 m. Convert your perimeter to metres.