

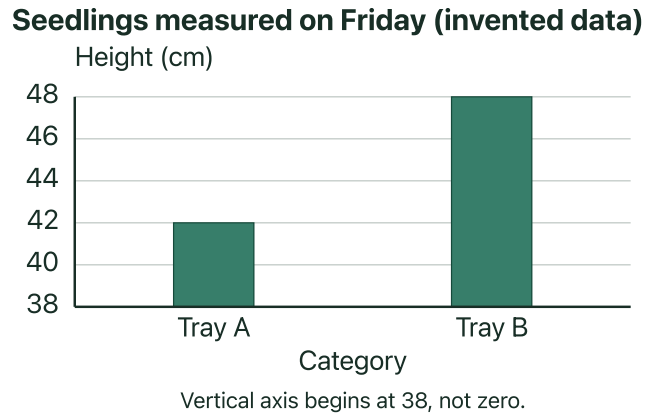
Misleading graphs: check the scale and the claim

Name: _____ Date: _____

Show your calculations, diagrams and explanations. Start with questions 1–2, then build toward the final challenge.

Public practice with published answers. This is not a full-topic readiness assessment.

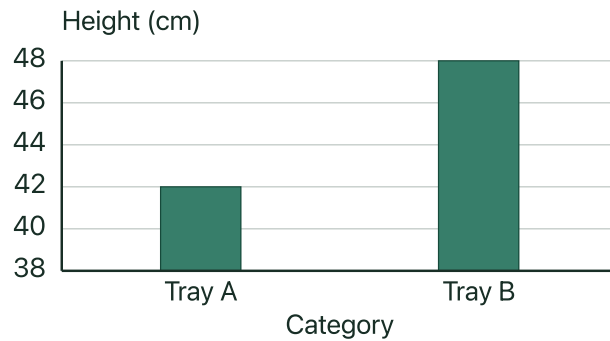
1. Where does this vertical axis begin, and how many centimetres does one labelled interval represent?



Show your work:

2. Find the actual difference between the two recorded heights. Show your calculation.

Seedlings measured on Friday (invented data)

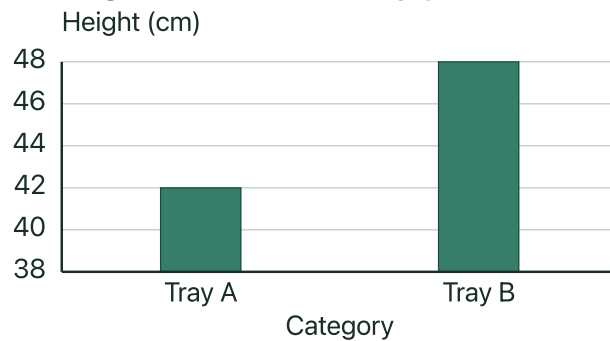


Vertical axis begins at 38, not zero.

Show your work:

3. A caption says 'Tray B is two and a half times as tall as Tray A.' Explain how the cropped bars create this impression, then find the actual height ratio.

Seedlings measured on Friday (invented data)

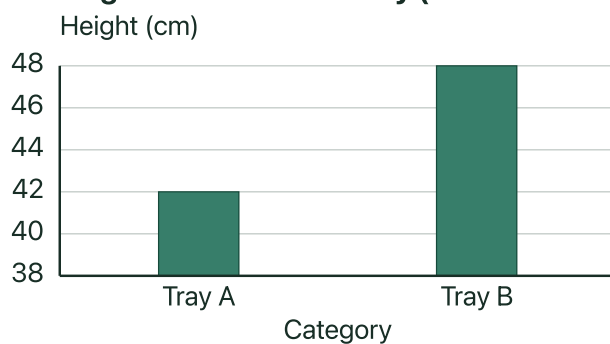


Vertical axis begins at 38, not zero.

Show your work:

4. Redraw the seedlings graph with a zero baseline and a uniform scale reaching at least 48 cm. Keep both values and units. Give one accurate comparison as a replacement caption.

Seedlings measured on Friday (invented data)



Vertical axis begins at 38, not zero.

Show your work:

5. Invented survey table: Club A has 12 supporters among 20 members; Club B has 18 supporters among 40 members. A graph of supporter counts claims support is more widespread in Club B. Compare both counts and percentages. Is that conclusion justified?

Show your work:

6. A school has 300 students. At a lunchtime chess club, 24 of 30 students surveyed prefer chess to running. A poster says '80% of the school prefers chess.' Check the percentage and explain the sampling problem. Suggest a better way to investigate the school-wide question.

Show your work: