

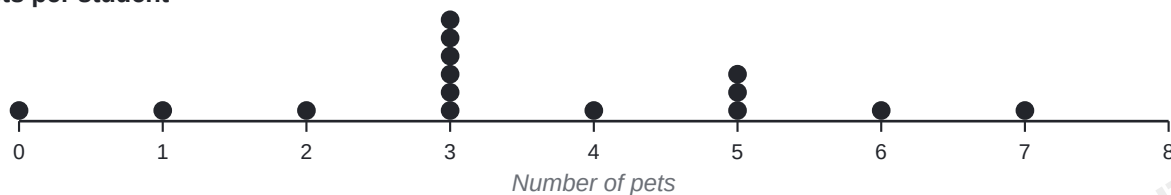
MATHEMATICS AND STATISTICS — 30 QUESTIONS

Multiple choice · 40 minutes

Work through the questions in order, but do not spend too long on any one. Mark your best answer for every question, then check your work against the worked solutions.

1. Ethan asked the students in the class how many pets they have. What is the most common number of pets?

Pets per student



Each dot is one student in Ethan's class.

- A 4
- B 6
- C 7
- D 3

2. How many lines of symmetry does a regular triangle have?

- A 2
- B 6
- C 1
- D 3

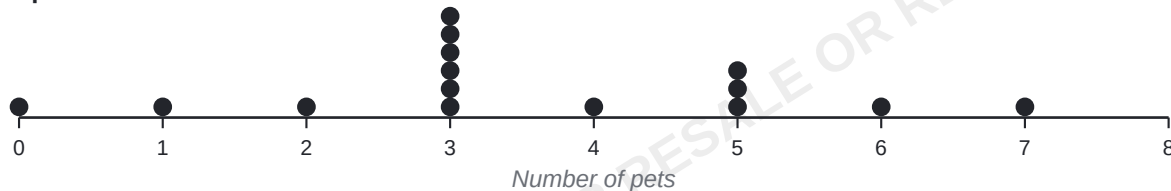
3. Which unit is best for measuring the distance a plane flies?

- A km
- B m
- C mm
- D cm

THE WORKED ANSWERS TO THOSE 3 QUESTIONS

1. Ethan asked the students in the class how many pets they have. What is the most common number of pets? [Dot plots]

Pets per student



Each dot is one student in Ethan's class.

Correct answer: D — 3

- The most common value has the tallest stack of dots.
- The tallest stack is at 3 pets.
- Why the other options are wrong:
 - A (4): That value has fewer dots.
 - B (6): That is how many students have it, not the number of pets.
 - C (7): That is the largest number of pets, not the most common.

Skill: Dot plots

KEY TAKEAWAY

The most common value in a dot plot has the most dots.

2. How many lines of symmetry does a regular triangle have? [Symmetry]

Correct answer: D — 3

- A regular polygon has one line of symmetry through each vertex or side.
- A regular triangle has 3 lines of symmetry.
- Why the other options are wrong:
 - A (2): Missed one line of symmetry.

- B (6): Counted each line twice.
- C (1): A regular polygon has more than one line of symmetry.

Skill: Symmetry

KEY TAKEAWAY

A regular polygon with n sides has n lines of symmetry.

3. Which unit is best for measuring the distance a plane flies? [Choosing units]

Correct answer: A — km

- Think about the size of what you are measuring.
- The best unit is km.
- Why the other options are wrong:
- B (m): That unit is much too small for this measurement.
- C (mm): That unit is much too small for this measurement.
- D (cm): That unit is much too small for this measurement.

Skill: Choosing units

KEY TAKEAWAY

Choose the unit that gives a sensible number for the size of the thing being measured.