

Statistics: Discrete vs. Continuous Variables



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DIRECTIONS

For each variable, classify it as Discrete or Continuous. Discrete variables are counted (whole numbers). Continuous variables are measured (any value in a range).

1 Classify as Discrete or Continuous:

Number of cars in a parking lot

Answer: _____

2 Classify as Discrete or Continuous:

Height of a student (in cm)

Answer: _____

3 Classify as Discrete or Continuous:

Number of heads in 10 coin flips

Answer: _____

4 Classify as Discrete or Continuous:

Temperature of water (in °C)

Answer: _____

5 Classify as Discrete or Continuous:

Number of siblings a student has

Answer: _____

6 Classify as Discrete or Continuous:

Time to complete an exam (minutes)

Answer: _____

7 Classify as Discrete or Continuous:

Number of defective items in a shipment

Answer: _____

8 Classify as Discrete or Continuous:

Weight of a newborn baby (in lbs)

Answer: _____

Answer Key & Solutions

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TEACHER NOTES

Discrete = countable whole numbers (cars, people, flips). Continuous = measured values on a scale (height, time, temperature, weight). Key test: can the variable take fractional values in a meaningful way?

1 Classify as Discrete or Continuous:

Number of cars in a parking lot

= Discrete

Counted in whole numbers only — you cannot have 2.5 cars.

2 Classify as Discrete or Continuous:

Height of a student (in cm)

= Continuous

Height can take any value in a range, including decimals.

3 Classify as Discrete or Continuous:

Number of heads in 10 coin flips

= Discrete

Possible values: 0, 1, 2, ..., 10 — countable whole numbers.

4 Classify as Discrete or Continuous:

Temperature of water (in °C)

= Continuous

Temperature can be any real number in a range (e.g., 98.6°).

5 Classify as Discrete or Continuous:

Number of siblings a student has

= Discrete

Siblings are counted in whole numbers — no fractions possible.

6 Classify as Discrete or Continuous:

Time to complete an exam (minutes)

= Continuous

Time is measured and can take any decimal value.

7 Classify as Discrete or Continuous:

Number of defective items in a shipment

= Discrete

Defective items are counted — values are non-negative integers.

8 Classify as Discrete or Continuous:

Weight of a newborn baby (in lbs)

= Continuous

Weight is measured on a continuous scale — e.g., 7.4 lbs.