

A.S.14: Analysis of Data: Identify variables that might have a correlation but not a causal relationship

- 1 Which situation describes a correlation that is *not* a causal relationship?
 - 1) The rooster crows, and the Sun rises.
 - 2) The more miles driven, the more gasoline needed
 - 3) The more powerful the microwave, the faster the food cooks.
 - 4) The faster the pace of a runner, the quicker the runner finishes.
- 2 Which situation describes a correlation that is *not* a causal relationship?
 - 1) the number of miles walked and the total Calories burned
 - 2) the population of a country and the census taken every ten years
 - 3) the number of hours a TV is on and the amount of electricity used
 - 4) the speed of a car and the number of hours it takes to travel a given distance
- 3 Which situation does *not* describe a causal relationship?
 - 1) The higher the volume on a radio, the louder the sound will be.
 - 2) The faster a student types a research paper, the more pages the paper will have.
 - 3) The shorter the distance driven, the less gasoline that will be used.
 - 4) The slower the pace of a runner, the longer it will take the runner to finish the race.
- 4 Which phrase best describes the relationship between the number of miles driven and the amount of gasoline used?
 - 1) causal, but not correlated
 - 2) correlated, but not causal
 - 3) both correlated and causal
 - 4) neither correlated nor causal
- 5 A study showed that a decrease in the cost of carrots led to an increase in the number of carrots sold. Which statement best describes this relationship?
 - 1) positive correlation and a causal relationship
 - 2) negative correlation and a causal relationship
 - 3) positive correlation and not a causal relationship
 - 4) negative correlation and not a causal relationship

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Answer Section

1 ANS: 1

A rooster crows before sunrise, not because of the sun.

REF: fall0707ia

2 ANS: 2 REF: 061427ia

3 ANS: 2 REF: 081104ia

4 ANS: 3 REF: 081017a

5 ANS: 2 REF: 061122ia