In-Video Quiz Questions for
Unit 1: Part 2 – (3) Measures of spread

(03:50)

1. Given that the variance of life expectancies was 83.06 squared years, which of the following is the correct standard deviation and units?

    (a) $\sqrt{\{83.06\}}$ = 9.1 squared years
    (b) $\sqrt{\{83.06\}}$ = 9.1 years
    (c) 83.06^2 = 6899 years
    (d) 83.06^2 = 6899 squared years
    (e) 83.06 / (201 - 1) = 0.4153 years

(04:26)

2. Which set of cars from the previous slide has a more diverse composition of colors?

    (a) Set 1 (yellow, red, green, purple, blue)
    (b) Set 2 (three blue, two purple)

(04:54)
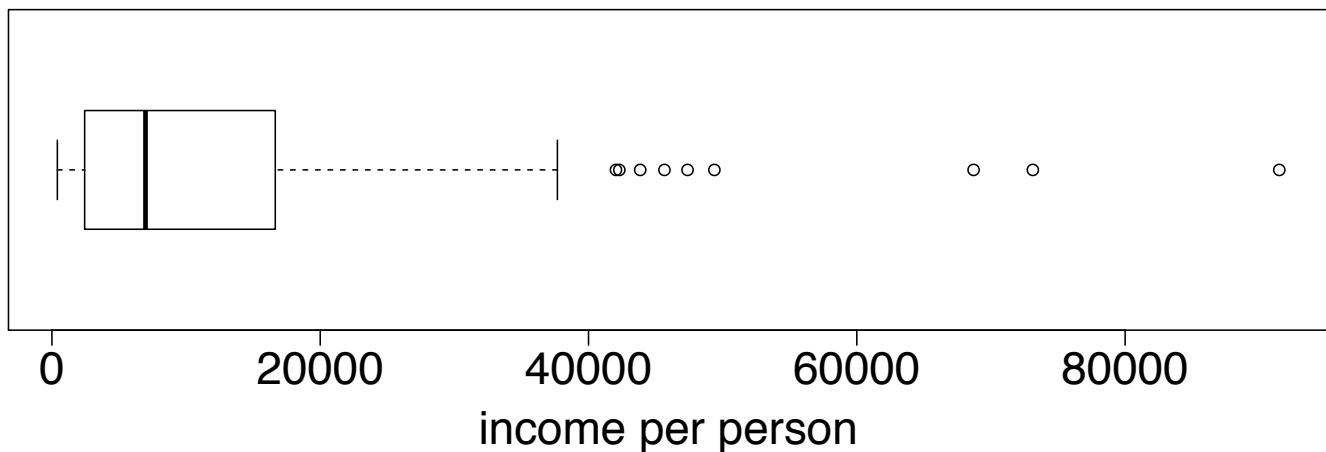
3. Which set of cars from the previous slide has more variable mileage?

    (a) Set 1 (10, 20, 30, 40, and 50 miles per gallon)
    (b) Set 2 (three 10, and two 50 miles per gallon)

(06:56)

4. Which of the following is false about the distribution of income per person in countries?

Min. = $403, Q1 = $2438, Median = $6975, Q3 = $16650, Max. = $91490

income per person

(a) 25% of the countries have incomes per person below $2438.
(b) 75% of the countries have incomes per person above $16650.
(c) IQR is 14212.
(d) The mean is expected to be greater than the median since the distribution is right skewed.

Answers:

1. b

Explanation: Standard deviation is the square root of the variance, and standard deviation has the same units as the data.

2. a

Explanation: Diverse means different, so the set with the different colors of cars is more diverse.

3. b

Explanation: The center of both distributions is 30, and the set with data at the ends of the distribution (away from the center) is more variable.

4. b

Explanation: Q3 (third quartile) marks the 75th percentile. Therefore, 75% of the countries actually have incomes per person below $16650.