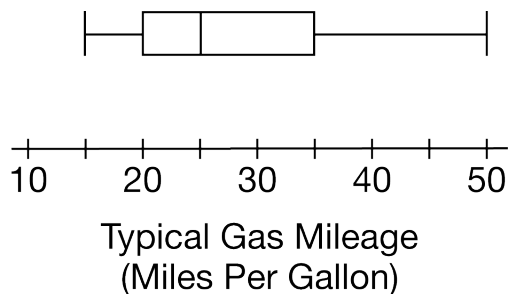## Graphical Representations of Summary Statistics Quiz

1. The following boxplot shows the typical gas mileage, in miles per gallon, for 20 different car models.

Typical Gas Mileage
(Miles Per Gallon)

Based on the boxplot, the top 25 percent of the cars have a typical gas mileage of at least how many miles per gallon?

(A) 15

(B) 20

(C) 25

(D) 35 ✓

(E) 50

Answer D

Correct. The value 35 is the third quartile, meaning at least 25% of the cars get 35 miles per gallon or more.

Graphical Representations of Summary Statistics Quiz

2. An amusement park attraction has a sign that indicates that a person must be at least 48 inches tall to ride the attraction. The following boxplot shows the heights of a sample of people who entered the amusement park on one day.
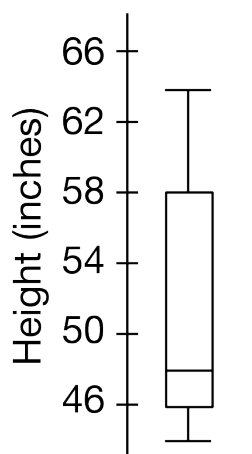
Based on the boxplot, approximately what percent of the people who entered the amusement park met the height requirement for the attraction?

(A) 25%
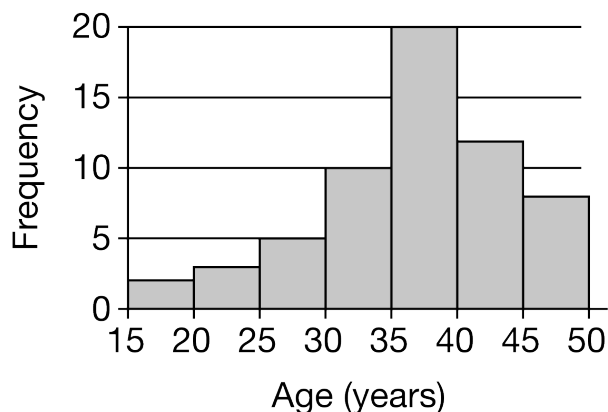
(B) 48%

(C) 50% ✓

(D) 75%

(E) 100%

Answer C

Correct. The median appears to be halfway between 46 and 50 at 48. So approximately 50% of the people met the height requirement.

Graphical Representations of Summary Statistics Quiz

3. The following histogram shows the ages, in years, of the people who attended a documentary at a movie theater.

Based on the histogram, which of the following statements best describes the relationship between the mean and the median of the distribution of ages?

(A) The mean and the median are equal in value because the distribution is symmetric.

(B) The mean is most likely less than the median because the distribution is skewed to the right.

(C) The mean is most likely less than the median because the distribution is skewed to the left. ✓

(D) The mean is most likely greater than the median because the distribution is skewed to the right.

(E) The mean is most likely greater than the median because the distribution is skewed to the left.

Answer C

Correct. The distribution is skewed to the left because the left tail is longer than the right tail. The mean tends to be less than the median in distributions that are skewed to the left.