

Name _____

Date _____

AP Statistics

Period _____

Unit 1 - HW 2

Multiple choice

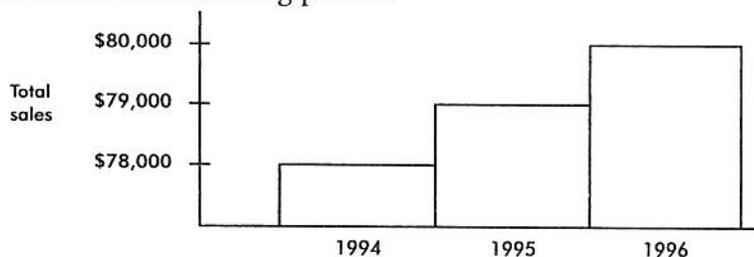
1) In a histogram, integer data is grouped into five classes. The classes contain the following age ranges:

Class	I	II	III	IV	V
Age Range	12-17	18-23	24-29	30-35	36-41

What is the numeric width of each class?

- A. 5.5
- B. 6.0
- C. 6.5
- D. 7.0
- E. 7.5

2) Consider the following picture:

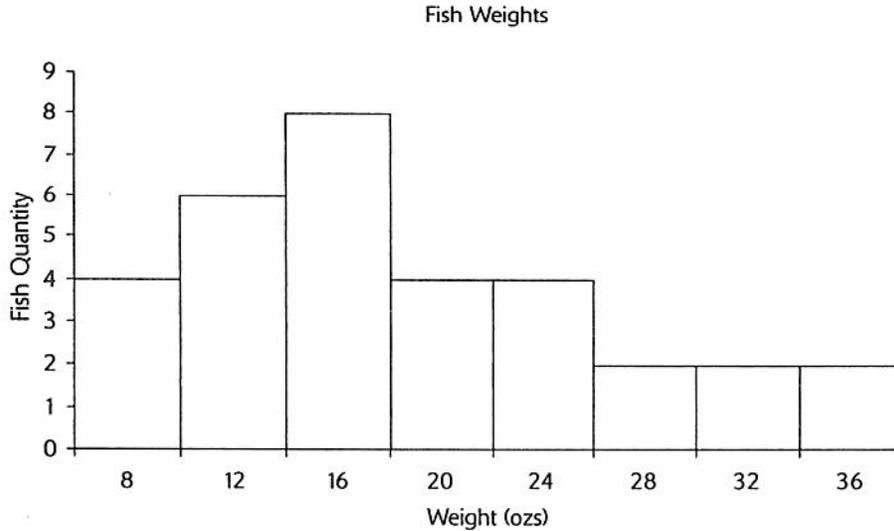


Which of the following statements are true?

- I. Total sales in 1995 were two times total sales in 1994, while total sales in 1996 were three times the 1994 total.
- II. The choice of labeling for the vertical axis results in a misleading sales picture.
- III. A histogram showing the same information, but this time with a vertical axis starting at \$78,000, would be less misleading.

- (A) I only
- (B) II only
- (C) III only
- (D) II and III
- (E) None of the above gives the complete set of true responses.

- 3) This histogram represents the weights of 16 fish caught in Lake Thomas on April 1. Which of the following statements is true based on this histogram? The x -values represent the midpoints of the class.



- A. More than half of the fish caught weighed less than 16 ounces.
- B. Half the fish caught weighed between 16 and 24 ounces.
- C. The relative frequency for fish weighing between 22 and 30 ounces is 0.1875.
- D. The distribution is skewed left.
- E. More than half of the fish caught weighed at least 16 ounces.

- 4) If a relative frequency distribution is symmetric, the sum of the relative frequencies is:

- A. 0.5
- B. 0.68
- C. 1.00
- D. 100
- E. Cannot be determined from the information given

- 5) Which of the following is/are suitable to determine whether a distribution is skewed?

- I. Stemplot
 - II. Histogram
 - III. Cumulative frequency charts
- A. III only
 - B. I and II
 - C. I and III
 - D. II and III
 - E. I, II, and III

- 6) Which of the following is true?

- A. Histograms convey more information than stemplots.
- B. Dotplots are not used for categorical data.
- C. Relative frequency histograms convey less information than frequency histograms.
- D. The largest value of a set of data can be determined by observing a histogram of the data.
- E. If a stemplot for a set of data shows a gap, then a histogram for the same data will also show a gap.

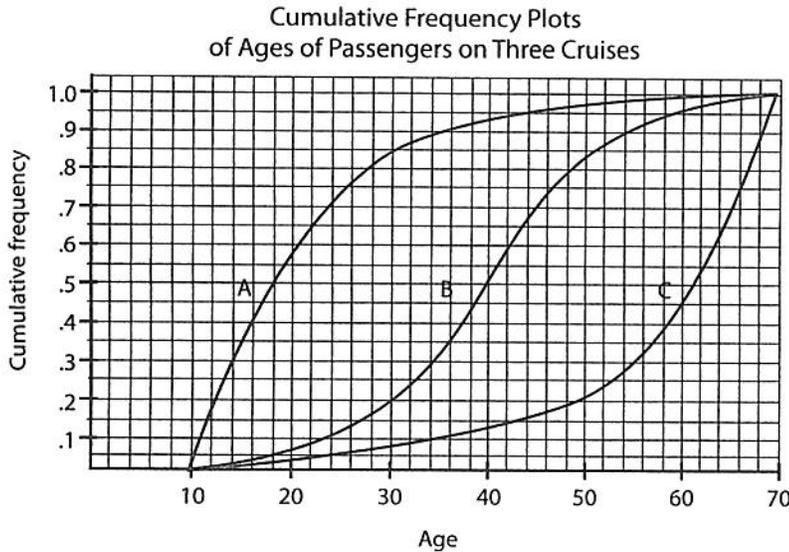
7) Which of the following is not true about histograms?

- A. The bars must touch each other.
- B. The width of each class must be the same.
- C. A histogram for a given set of data may be symmetric or skewed depending on the selection of class width and boundaries.
- D. Histograms may have gaps and clusters.
- E. Histograms may represent categorical data.

8) Which of the following are true statements?

- I. Both dotplots and stemplots can show symmetry, gaps, clusters, and outliers.
 - II. In histograms, relative areas correspond to relative frequencies.
 - III. In histograms, frequencies can be determined from relative heights.
- (A) II only
(B) I and II
(C) I and III
(D) II and III
(E) I, II, and III

9) Cumulative frequency graphs of the ages of people on three different Caribbean cruises (A, B, and C) are given below:



Write a few sentences comparing the distributions of ages of people on the three cruises.

10) Which of the following are true statements?

- I. Two students working with the same set of data may come up with histograms that look different.
- II. Displaying outliers is less problematic when using histograms than when using stemplots.
- III. Histograms are more widely used than stemplots or dotplots because histograms display the values of individual observations.

- (A) I only
- (B) II only
- (C) III only
- (D) I and II
- (E) II and III

Free Response

1) The following are test scores from 40 students in a tenth-grade math class. Construct a histogram with 6 classes and use it to describe the shape of the distribution.

97	95	88	74	69	86	70	79
99	90	89	97	59	67	78	96
88	66	76	92	98	77	62	84
76	85	48	69	63	98	49	91
80	58	99	85	63	60	97	96