

8. When Bill makes a sandwich, he may choose from among 3 kinds of rolls, 4 varieties of meat, and 2 types of sliced cheese. If he chooses one roll, one meat, and one type of cheese, how many different kinds of sandwiches can he make?

- (A) 9 (B) 14 (C) 24 (D) 288

$$3x - 4 \geq 0$$

9. Which of the following subsets of the real numbers best describes the solution set of the inequality above?

- (A) $\left[0, \frac{4}{3}\right)$
 (B) $\left[\frac{4}{3}, \infty\right)$
 (C) $(-\infty, \infty)$
 (D) $(-\infty, -4] \cup [3, \infty)$

10. Which of the following statements about an event A are true?

- I. The probability that the event A will occur can be less than 0.
- II. The probability that the event A will occur can be equal to 1.
- III. The sum of the probability that event A will occur and the probability that event A will not occur is equal to 1.

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

11. The difference between the mean and the median of the numbers 27, 27, 29, 32, and 35 is

- (A) 0 (B) 1 (C) 3 (D) 8

12. In a class with 50 students, 25 of the students are female, 15 of the students are mathematics majors, and 10 of the mathematics majors are female. If a student in the class is to be selected at random, what is the probability that the student selected will be female or a mathematics major or both?

- (A) 0.4 (B) 0.5 (C) 0.6 (D) 0.8

13. On an exam for a class with 32 students, the mean score was 67.2 points. The instructor rescored the exam by adding 8 points to the exam score for every student. What was the mean of the scores on the rescored exam?

14. A new computer graphics company employs 10 programmers. The company decides to expand into digital animation and needs to transfer 3 of the programmers into the new department. How many different combinations of 3 programmers can be chosen to transfer to the new department?

- (A) 3 (B) 30 (C) 120 (D) 840

15. The faces of a fair cube are numbered 1 through 6; the probability of rolling any number from 1 through 6 is equally likely. If the cube is rolled twice, what is the probability that an even number will appear on the top face in the first roll or that the number 1 will appear on the top face in the second roll?

- (A) $\frac{1}{12}$ (B) $\frac{7}{12}$ (C) $\frac{2}{3}$ (D) $\frac{3}{4}$

16. If $R = \{x \mid x > 0\}$ and $S = \{x \mid x < 3\}$, what is the number of integers in $R \cap S$?

- (A) Zero (B) Two (C) Three (D) Four