

11-1 Standardized Test Prep

Permutations and Combinations

Multiple Choice

For Exercises 1–5, choose the correct letter.

1. You choose 5 apples from a case of 24 apples. Which best represents the number of ways you can make your selection?

(A) ${}^5C_{19}$ (B) ${}^{24}C_5$ (C) ${}^5P_{24}$ (D) ${}^{19}P_5$

2. Which is equivalent to 7P_3 ?

(F) 28 (G) 35 (H) 210 (I) 840

3. A traveler can choose from three airlines, five hotels, and four rental car companies. How many arrangements of these services are possible?

(A) 12 (B) 60 (C) 220 (D) 495

4. Which is equivalent to $a!(b!)?$

(F) $(ab)!$ (G) $(ab)!$ (H) $ba!$ (I) $b!(a!)$

5. Which is equivalent to 9C_5 ?

(A) 126 (B) 3024 (C) 15,120 (D) 45,000

Short Response

6. You have a \$1 bill, a \$5 bill, a \$10 bill, a \$20 bill, a quarter, a dime, a nickel, and a penny. How many different total amounts can you make by choosing 6 bills and coins? Show your work.