8-1 Standardized Test Prep

Inverse Variation

Multiple Choice

For Exercises 1–5, choose the correct letter.

1. Which equation represents inverse variation between x and y?

   (A) $4y = kx$　　　　(B) $xy = 4k$　　　　(C) $y = 4kx$　　　　(D) $4k = \frac{x}{y}$

2. The ordered pair (3.5, 1.2) is from an inverse variation. What is the constant of variation?

   (F) 2.3　　　　(G) 2.9　　　　(H) 4.2　　　　(I) 4.7

3. Suppose x and y vary inversely, and $x = 4$ when $y = 9$. Which function models the inverse variation?

   (A) $y = \frac{36}{x}$　　　　(B) $x = \frac{y}{36}$　　　　(C) $y = \frac{x}{36}$　　　　(D) $\frac{x}{y} = 36$

4. Suppose x and y vary inversely, and $x = -3$ when $y = \frac{1}{3}$. What is the value of y when $x = 9$?

   (F) -9　　　　(G) -1　　　　(H) $-\frac{1}{9}$　　　　(I) $\frac{1}{9}$

5. In which function does t vary jointly with q and r and inversely with s?

   (A) $t = \frac{kq}{rs}$　　　　(B) $t = \frac{ks}{qr}$　　　　(C) $t = \frac{s}{kqr}$　　　　(D) $t = \frac{kqr}{s}$

Short Response

6. A student suggests that the graph at the right represents the inverse variation $y = \frac{3}{x}$. Is the student correct? Explain.