4-2 Standardized Test Prep

Patterns and Linear Functions

Multiple Choice

For Exercises 1–4, choose the correct letter.

1. Which equation represents the relationship shown in the table at the right?

   A. $y = -x - 3$ **C.** $y = 2x - 3$

   B. $y = x - 3$ **D.** $y = -2x + 3$

x	y
0	−3
1	−1
2	1
3	3

2. In a relationship between variables, what is the variable called that changes in response to another variable?

   F. function   **H.** independent variable

   G. input function   **I.** dependent variable

3. A lawn care company charges a $10 trip fee plus $0.15 per square foot of x square feet of lawn for fertilization. Which equation represents the relationship?

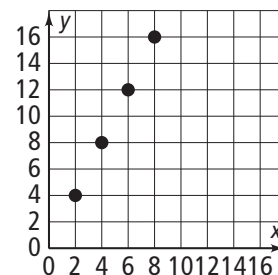   **A.** $x = 0.10y + 15$ **B.** $y = 0.15x + 10$ **C.** $y = 10x + 0.15$ **D.** $x = 10y + 0.15$

4. Which equation represents the relationship shown in the graph?

   F. $y = -2x$ **H.** $y = -\frac{1}{2}x$

   G. $y = 2x$ **I.** $y = \frac{1}{2}x$

Short Response

5. The table below shows the relationship between the number of teachers and the number of students going on a field trip. How can the relationship be described using words, an equation, and a graph?

Field Trip					
Teachers	2	3	4	5	6
Students	34	51	68	85	102