**Functions**

1. Which equation generalizes the pattern in the table below?

|  |  |
| --- | --- |
| **X** | **Y** |
| -3 | -5 |
| -1 | 1 |
| 2 | 10 |
| 5 | 19 |

A. y = x + 3

B. y = 3x

C. y = 2x + 6

D. y = 3x + 4

2. The table gives the population, *p*, in a region of the country as a function of the years since 2003, *t*.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *T* | 1 | 2  | 3  | 4  |
| *P* | 42,500 | 43,000 | 43,500 | 44,000 |

Which equation represents this data algebraically?

1. p = 1,000t + 42,500
2. p = 500t + 42,000
3. p = 500t + 42,500
4. p = 1,500t + 40,000

3. Della is renting a car for the day. The rental cost (y) is $30 plus $0.25 per mile (m). Which equation below represents the rental cost?

A. y = 0.30m + 25

B. y = 30m + 0.25

C. y = 0.25m + 30

D. y = m(0.25 + 0.30)

4. The owner of a health club noticed a pattern in the weekly sales of memberships. The table below shows the sales. For weeks 1 through 4, which of the following equations could represent the pattern of *m* memberships sold during week *y*?



A. m= 6w

B. m = 12w

C. m = 6(w + 6)

D. m = 6(w + 1)

5. Music Record Company has produces 120 CDs every 10 minutes.

What would the slope of the line in a graph of this situation represent?

A. 120 CDs per minute

B. 10 CDs per hour

C. 12 CDs per minute

D. 12 CDs every 10 minutes