

# Algebra I EOC Practice #1

**SPI 3102.1.1: Interpret patterns found in sequences, tables, and other forms of quantitative information using variables or function notation.**

1. Which function best represents the data shown in the table?

Shirt Cost

| Number of shirts, $x$ | Total Cost, $f(x)$ |
|-----------------------|--------------------|
| 1                     | 15                 |
| 2                     | 26                 |
| 3                     | 37                 |
| 4                     | 48                 |
| 5                     | 59                 |

- A.  $f(x) = 11x$   
B.  $f(x) = x + 11$   
C.  $f(x) = 11x + 4$   
D.  $f(x) = 4x + 11$
2. Which function represents the data shown in this table?

| $n$ | $f(n)$ |
|-----|--------|
| 1   | 10     |
| 2   | 13     |
| 3   | 16     |
| 4   | 19     |
| 5   | 22     |

- A.  $f(n) = x + 3$   
B.  $f(n) = 2x + 8$   
C.  $f(n) = 4x + 5$   
D.  $f(n) = 3x + 7$
3. Write a function to represent the sequence listed below.

2, 7, 12, 17, 22, 27

- A.  $f(x) = 3x + 1$   
B.  $f(x) = 2x + 4$   
C.  $f(x) = x + 5$   
D.  $f(x) = 7x - 2$

4. A sequence is created from the function  $k(n) = 2n + 3$ , where  $n$  represents the position of the term of the sequence. The sequence does not begin at 0. Which list represents the first five terms of the sequence?

- A. 3, 5, 7, 9, 11  
B. 5, 7, 9, 11, 13  
C. 5, 9, 13, 17, 21  
D. 2, 3, 4, 5, 6

5. The table shows the cost of shipping t-shirts,  $c(t)$ , based on the number of t-shirts ordered,  $t$ .

| Number of shirts ordered, $t$ | Total cost of shipping t-shirts, $c(t)$ |
|-------------------------------|---|
| 1                             | \$2.50                                  |
| 2                             | \$2.80                                  |
| 3                             | \$3.10                                  |
| 4                             | \$3.40                                  |
| 5                             | \$3.70                                  |
| 6                             | \$4.00                                  |
| 7                             | \$4.30                                  |
| 8                             | \$4.60                                  |

The pattern in the table continues. Which value represents the cost of shipping 12 t-shirts?

- A. \$4.90  
B. \$5.20  
C. \$5.50  
D. \$5.80