

Sample Algebra and Functions

This is a test of your ability to solve problems using algebra and associated mathematical functions. There are five (5) sample questions.

1. Consider the following formula:

$$A = B + 3(4 - C)$$

If B equals 5 and C equals 2, what is the value of A?

- A. 7
- B. 11
- C. 12
- D. 17

2. Consider the following formula:

$$y = 3(x + 5)(x - 2)$$

Which of the following formulas is equivalent to this one?

- A. $y = 3x^2 + 9x - 30$
- B. $y = x^2 + 3x - 10$
- C. $y = 3x^2 + 3x - 10$
- D. $y = 3x^2 + 3x - 30$

3. Consider the following pattern of numbers:

110, 112, 107, 109, 104

What is the next number in the pattern?

- A. 97
- B. 99
- C. 106
- D. 109

4. Consider the following formula:

$$a = \frac{1}{2}b - 4$$

Which of the following statements is true for this formula?

- A. When the value of b is less than 8, a is negative.
- B. When the value of b is greater than 8, a is negative.
- C. When the value of b is less than 8, a is positive.
- D. When the value of b is greater than 4, a is positive.

5. Consider the following table:

X	Y
0	-5
1	-4
2	-3
3	-2
4	-1
5	0
6	1

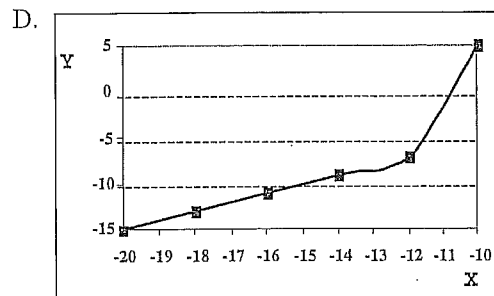
Which of the following choices represents the same relationship as demonstrated in this table?

A.

X	Y
10	-40
20	-30
30	-20
40	-10

B. $Y = \frac{X}{2} - 5$

C. Y is equivalent to the difference between the value of X and a constant C, where C equals 5.



Sample Test Answer Fill In Corresponding Answer

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- 1. [A][B][C][D]
- 2. [A][B][C][D]
- 3. [A][B][C][D]
- 4. [A][B][C][D]
- 5. [A][B][C][D]