

# Sample Pages Algebra I SE

## TEKS-tivity



**Functions**  
Number and Algebraic Methods  
TEKS A.12B Supporting Standard

**Activity #2: A.12B**



Determine what Bruce will have for a snack by matching the answers to the snack.

Bruce had \_\_\_\_\_ as a snack.

$f(x) = 3x^2 - 5$   
 $f(-2) =$

$f(x) = -\frac{1}{2}x + 12$   
 $f(6) =$

$f(x) = -\frac{1}{3}x - 7$   
 $f(-9) =$

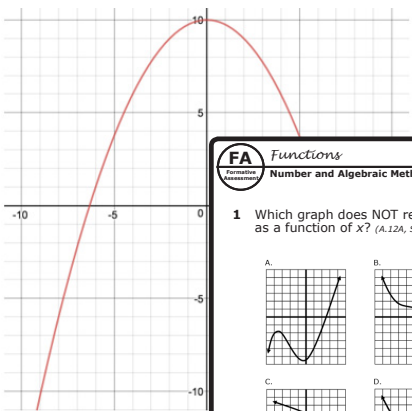
Explain the process you

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**Activity #3: A.12B**

Use the function  $f(x) = -\frac{1}{2}x^2 + 10$  to solve the problems below.

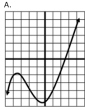

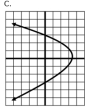
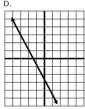


- What is the value of the function when  $x = -8$ ?
- Find  $f(-8)$ .
- True or false:  $f(7) < f(5)$ ?
- Determine the range of  $f(x)$  when the domain is  $\{-8, -4, 0, 4, 8\}$ .
- Bonus: What is the input value for the function when  $f(x) = 10$ ?

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**FA Functions**  
Number and Algebraic Methods  
Unit 3: TEKS A.12A, A.12B

**1** Which graph does NOT represent  $y$  as a function of  $x$ ? (A.12A, SS, RCI)

**2** Evaluate  $f(x) = \frac{3}{2}x^2 + 4x$ , when the value of  $f(5)$ ? (A.12B, RS, RCI)

**F** 23  
**G** 29  
**H** 35  
**J** 65

**3** Given  $f(x) = x^2 - 4$ , evaluate the function for the domain:  $\{-5, 0, 2, 3\}$ . (A.12B, RS, RCI)

**A**  $\{-4, 0, 5, 21\}$   
**B**  $\{-29, -4, 0, 5\}$   
**C**  $\{-9, -4, -2, -1\}$   
**D**  $\{4, 8, 13, 29\}$

**4** Given  $f(x) = 3(x^2 - 2) + 7$ , evaluate the function for the domain:  $\{-4, 0, 3\}$ . (A.12B, RS, RCI)

**F**  $\{-47, 13, 40\}$   
**G**  $\{-11, 1, 10\}$   
**H**  $\{-7, 5, 14\}$   
**J**  $\{1, 28, 49\}$

**5** Which table represents  $y$  as a function of  $x$ ? (A.12A, SS, RCI)

**FA Sequences**  
Number and Algebraic Methods  
Unit 4: TEKS A.12C, A.12D

**1** A sequence can be generated by using  $t_n = t_{(n-1)} + 3$ , where  $t_1 = 7$  and  $n$  is a whole number greater than 1. What are the first four terms in the sequence? (A.12C, SS, RCI)

**A** 1, 4, 7, 10  
**B** 4, 7, 10, 13  
**C** 7, 10, 13, 16  
**D** 7, 11, 15, 19

**2** A sequence can be generated by using  $a_n = 5a_{(n-1)}$ , where  $a_1 = 7$  and  $n$  is a whole number greater than 1. What are the first three terms in the sequence? (A.12C, SS, RCI)

**F** 7, 6, 5  
**G** 7, 12, 17  
**H** 5, 35, 245  
**J** 7, 35, 175

**3** Given the first five numbers in a pattern:  $-3, -1, 1, 3, 5$ . If the pattern continues, which function can be used to find the  $n^{\text{th}}$  term in the arithmetic sequence? (A.12D, SS, RCI)

**A**  $f(x) = 2x - 5$   
**B**  $f(x) = x + 2$   
**C**  $f(x) = 3x + 8$   
**D**  $f(x) = -2x - 7$

**4** Given the first four numbers in a pattern:  $\frac{2}{3}, \frac{4}{3}, 2, \frac{8}{3}$ . If the pattern continues, which function can be used to find the  $n^{\text{th}}$  term in the geometric sequence? (A.12D, SS, RCI)

**F**  $f(n) = 2n$   
**G**  $f(n) = n + \frac{2}{3}$   
**H**  $f(n) = \frac{2n}{3}$   
**J**  $f(n) = n^2$

**5** Find the first four terms in the geometric sequence represented by the recursive notation  $t_n = \frac{1}{4}t_{(n-1)}$ , where  $t_1 = 256$ . (A.12C, SS, RCI)

**A** 1, 4, 16, 64  
**B** 4, 16, 64, 256  
**C** 64, 16, 4, 1  
**D** 256, 64, 16, 4

**6** Given the first three numbers in a pattern: 120, 60, 30. If the pattern continues, which function can be used to find the  $n^{\text{th}}$  term in the sequence? (A.12D, SS, RCI)

**F**  $f(n) = \frac{1}{2}n$   
**G**  $f(n) = n - 60$   
**H**  $f(n) = (\frac{1}{2})^{(n-1)}$   
**J**  $f(n) = 120(\frac{1}{2})^{(n-1)}$

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### Activities and Unit Assessments

- Written specifically for the TEKS
- Focus on verb, content, and method of implementation defined by each TEKS