

7th: Chapter 7 Test

Name _____

Date _____

1. _____

14. _____

2. _____

15. _____

3. _____

4. _____

5. _____

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8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

Extra Credit

16a. _____

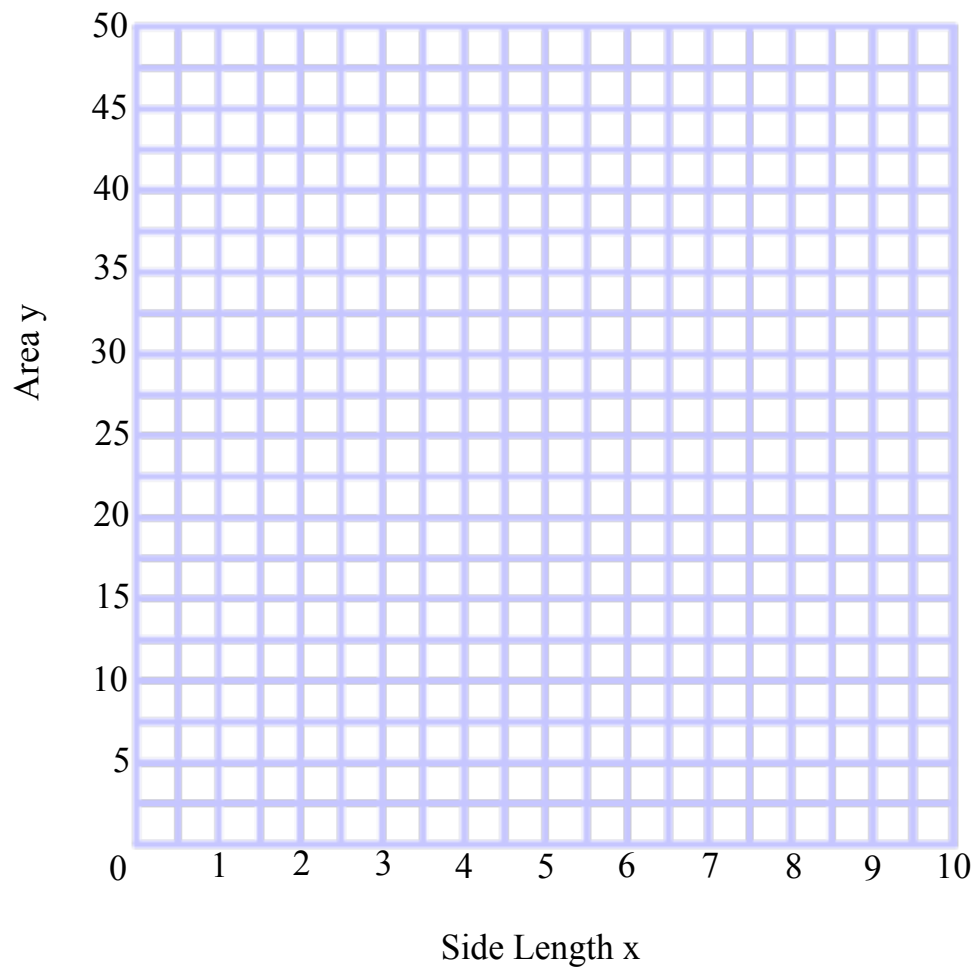
16b. _____

16c. $x =$ _____

17a. _____

17b.

x	1	2	3	4	5
y					



17c. _____

Multiple Choice

- Simplify $5^2m^3n^2 \cdot 5m^6n^4$.

<input type="radio"/> (A) $5m^{-3}n^{-2}$	<input type="radio"/> (B) $25m^9n^6$
<input type="radio"/> (C) $125m^{18}n^8$	<input type="radio"/> (D) $125m^9n^6$
- Write $\frac{10x^{-9}}{-5x^2}$ using only positive exponents.

<input type="radio"/> (A) $-2x^{11}$	<input type="radio"/> (B) $\frac{-2}{x^7}$
<input type="radio"/> (C) $\frac{-2}{x^{11}}$	<input type="radio"/> (D) $\frac{1}{2x^7}$
- Simplify $\sqrt{9x^8}$.

<input type="radio"/> (A) $\sqrt{3x^4}$	<input type="radio"/> (B) $3x\sqrt{x^6}$
<input type="radio"/> (C) $3x^4$	<input type="radio"/> (D) $3x^6$
- Simplify $\sqrt{12x^7}$.

<input type="radio"/> (A) $2x\sqrt{3x^5}$	<input type="radio"/> (B) $2x^3\sqrt{3x}$
<input type="radio"/> (C) $4x\sqrt{3x^5}$	<input type="radio"/> (D) $4x^3\sqrt{3x}$
- Simplify the expression $(5x^4y)(3x^2y)$.

<input type="radio"/> (A) $8x^6y^2$	<input type="radio"/> (B) $15x^6y$
<input type="radio"/> (C) $15x^6y^2$	<input type="radio"/> (D) $15x^8y$
- Simplify the expression $(-2q^4)^5$.

<input type="radio"/> (A) $-32q^{20}$	<input type="radio"/> (B) $-32q^9$
<input type="radio"/> (C) $32q^9$	<input type="radio"/> (D) $32q^{20}$
- Which of the following expressions can be simplified as $9a^4b^6$?

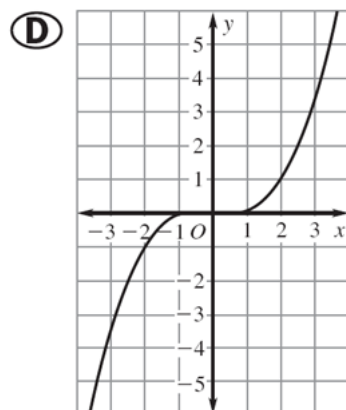
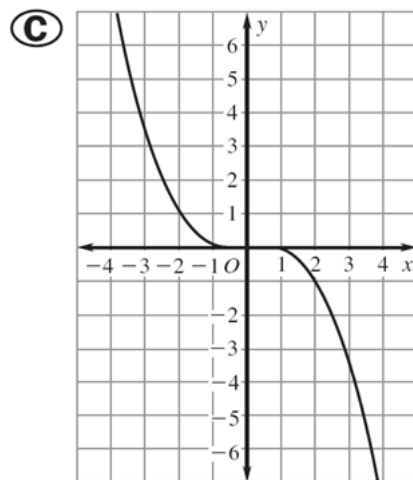
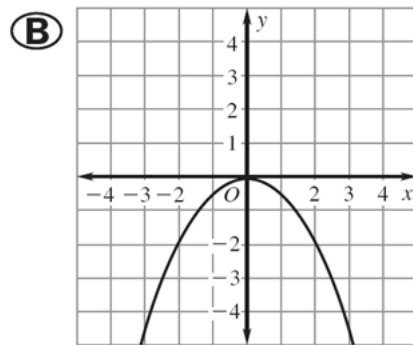
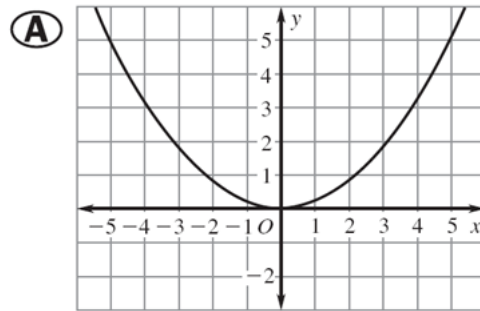
<input type="radio"/> (A) $3(a^2b^3)^2$	<input type="radio"/> (B) $(3a)^2(ab^9)$
<input type="radio"/> (C) $(3a^2b^3)^2$	<input type="radio"/> (D) $(a^4b^6)^9$
- Which of the following is equivalent to $(7^4)^{-2}$?

<input type="radio"/> (A) $\frac{1}{7^8}$	<input type="radio"/> (B) $\frac{1}{7^2}$	<input type="radio"/> (C) 7^2	<input type="radio"/> (D) 7^6
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- Choose the value of x that will make the relation a function.
 $(3, 6), (4, 12), (2, 8), (7, 6), (x, 2)$

<input type="radio"/> (A) $x = 2$	<input type="radio"/> (B) $x = 3$
<input type="radio"/> (C) $x = 4$	<input type="radio"/> (D) $x = 5$

13. Which graph represents the equation

$$y = -\frac{1}{2}x^2?$$



14. Caleb wants to find the volume of an aquarium with height x , width $2x$, and depth $3x$. What kind of equation will give the volume as a function of x ?

- Ⓐ linear function
- Ⓑ quadratic function
- Ⓒ cubic function
- Ⓓ none of the above

15. Which of the following is a *quadratic function*?

- Ⓐ $y = 3x$
- Ⓑ $y = \frac{7}{2}x^5$
- Ⓒ $y = 2x^3$
- Ⓓ $y = 3x^2$

Extra Credit

16. Use the table below to answer the questions.

x	-1	0	1	2
y	3.5	4	4.5	5

- a.** Write a linear function that describes the data in the table. *Explain* your reasoning.
- b.** What is the value of y when x is 10? *Justify* your response.
- c.** What is the value of x when y is 10? *Justify* your response.

Extended Response

- 17.** A square tabletop has a side length of x , and an area of y .
- a.** Write a function rule that relates the area of a square tabletop, y , to the length of a side, x .
 - b.** Make a table of values for this function and use the table to make a graph.
 - c.** How long should the length of a side be if you want your tabletop to have an area of 25 square feet? *Explain* your reasoning.