Precalculus
Review – Section 1.3

Name _____ Date _____

Choose the correct response for each of the following questions.

Use the general form equation: $f(x)=a\left[b\left(x-h\right)\right]+k$, to answer #'s 1-6.

1) The **value "b"** determines what part of the transformed graph?

2) The **value "k"** determines what part of the transformed graph?

3) The **value "a"** determines what part of the trig graph below?

4) The **value "h"** determines what part of the trig graph below?

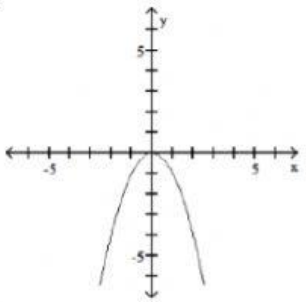
5) What affect does "b" have on the graph if it is **negative**?

6) What affect does "a" have on the graph if it is **negative**?

Choose the correct graph for the following equation.

7) $f(x)=x^2$

A)



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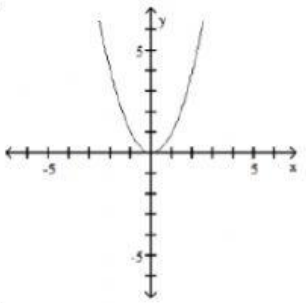

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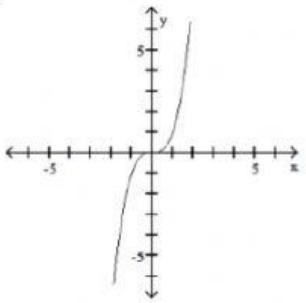

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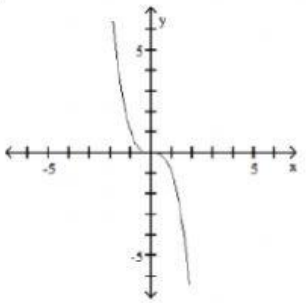

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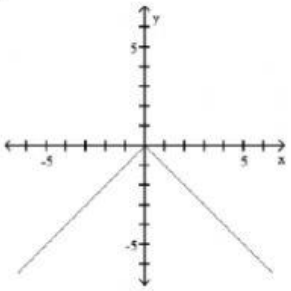
Choose the correct graph for the following equation.

8) $f(x) = |x|$

A)



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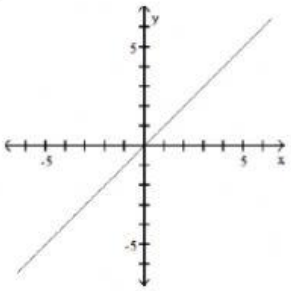

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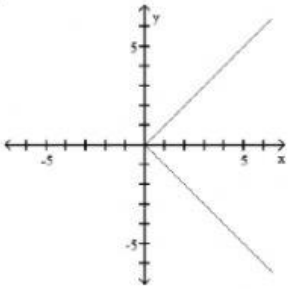

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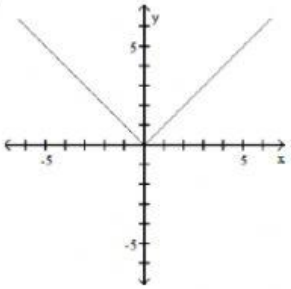

9) Which of the following is the parent function for $y = \sqrt{-\frac{1}{3}x}$?

a. $f(x) = x$

b. $f(x) = |x|$

c. $f(x) = x^3$

d. $f(x) = \sqrt{x}$

Choose the correct description to transform the graph of f into the graph of g.

10) $f(x) = \frac{1}{x}$ and $g(x) = \frac{1}{x-7}$

A) Shift the graph of the reciprocal function up 7 units.
B) Shift the graph of the reciprocal function left 7 units.
C) Shift the graph of the reciprocal function down 7 units.
D) Shift the graph of the reciprocal function right 7 units.

11) $f(x) = \sqrt{x}$ and $g(x) = -\sqrt{x+6}$

A) Shift the graph of f left 6 units and then reflect across the y-axis.
B) Shift the graph of f left 6 units and then reflect across the x-axis.
C) Shift the graph of f right 6 units and then reflect across the x-axis.
D) Shift the graph of f up 6 units and then reflect across the y-axis.

12) $f(x) = |x|$ and $g(x) = |-x| - 7$

A) Reflect across the x-axis and translate 7 units to the left.
B) Reflect across the y-axis and translate 7 units to the left.
C) Reflect across the y-axis and translate 7 units down.
D) Reflect across the x-axis and translate 7 units down.

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13) Which of the following ***IS*** a transformation that can be used to graph the function below?

$$f(x) = -7\sqrt{5(x+9)} + 12$$

A) Vertical translation 12 units up

B) Horizontal stretch by a factor of 5

C) Reflection over the y-axis

D) Horizontal translation 9 units right

14) Which of the following ***IS NOT*** a transformation that can be used to graph the function below?

$$f(x) = -6(x-4)^2 + 2$$

A) Vertical translation 2 units up

B) Horizontal shrink by a factor of $\frac{1}{6}$

C) Reflection over the x-axis

D) Horizontal translation 4 units right

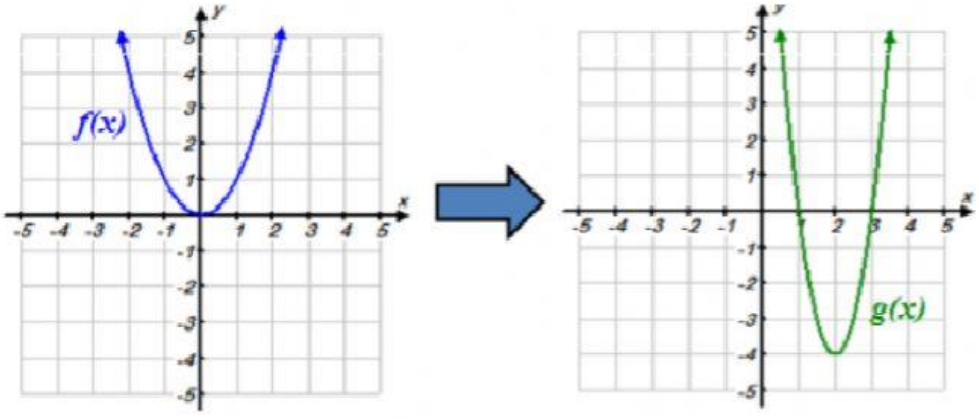
Choose the correct equation for the following parent graph transformation.

15) The graph of $f(x) = \sqrt{x}$ is shifted 4 units to the left. Then the graph is shifted 6 units upward.

A) $g(x) = 6\sqrt{x+4}$
B) $g(x) = \sqrt{x-4} + 6$
C) $g(x) = \sqrt{x+6} + 4$
D) $g(x) = \sqrt{x+4} + 6$

Choose the correct equation for each of the following parent graph transformations.

16) Given the graph of the parent function is $f(x) = x^2$:



Which function below correctly describes the graph of $g(x)$?

a. $g(x) = \left(\frac{1}{4}x + 2\right)^2 - 4$

b. $g(x) = (4x+2)^2 - 4$

c. $g(x) = \frac{1}{4} \cdot (x+2)^2 - 4$

d. $g(x) = 4 \cdot (x-2)^2 - 4$

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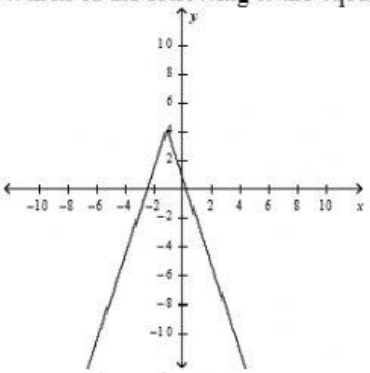
17) Which of the following is the equation for the graph shown?

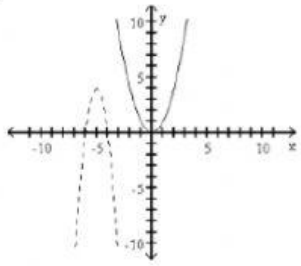


a. $y = 3|x + 1| - 4$
b. $y = -4|x + 1| + 3$
c. $y = -3|x + 1| + 4$
d. $y = -|x + 4| + 3$

Choose the correct graph for each of the following equations.

18) $f(x) = x^2$ (solid graph) $g(x) = -\frac{1}{4}(x+5)^2 + 4$ (dotted graph)

A)



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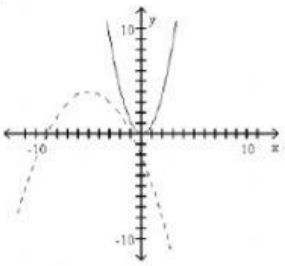

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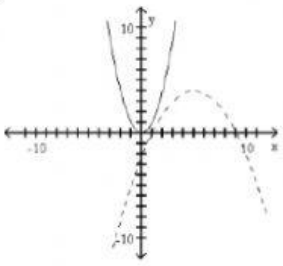

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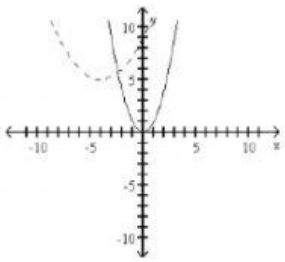
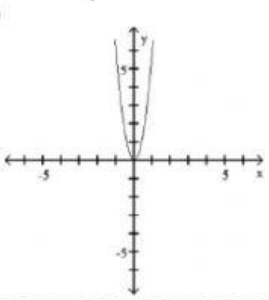


19) $f(x) = \frac{1}{6}x^2$

A)



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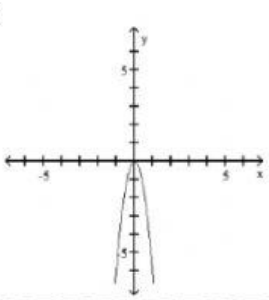

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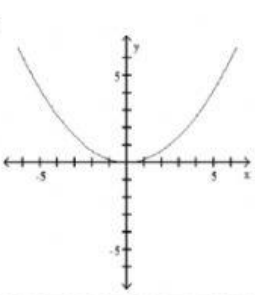

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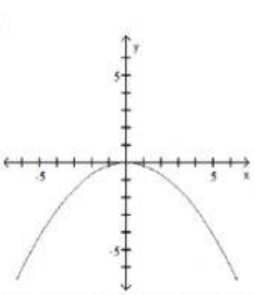
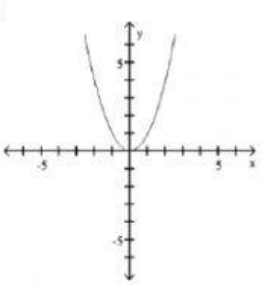


20) $f(x) = -x^2$

A)



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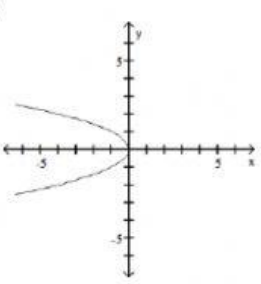

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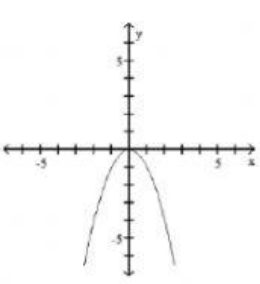

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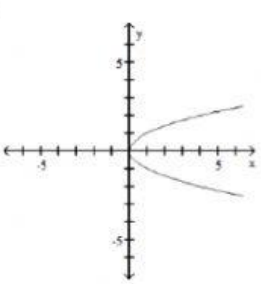

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