X

ALGEBRA IS MY DOMAIN ®
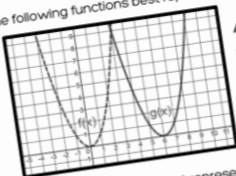
TRANSFORMATIONS OF QUADRATICS WORKSHEET / QUIZ

7 QUESTIONS & INCLUDES SOLUTIONS!

TRANSFORMATIONS OF QUADRATIC FUNCTIONS

1. The quadratic parent function $f(x) = x^2$ was transformed to $g(x) = x^2 - 14$. Which of the following describes this transformation?
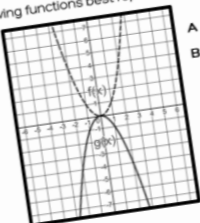
A Vertical shift of 14 units up

B Horizontal shift of 14 units right

C Vertical shift of 14 units down

D Horizontal shift of 14 units left

2. Which of the following functions best represents the transformation below?

A $g(x) = (x - 6)^2$
B $g(x) = (x + 6)^2$
C $g(x) = x^2 - 6$
D $g(x) = x^2 + 6$

f(x)   g(x)

3. Which of the following functions best represents the transformation below?

A $g(x) = (x - 1)^2$
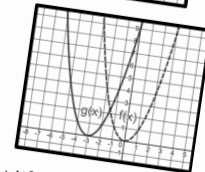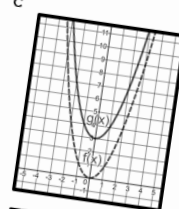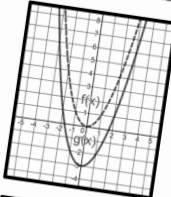B $g(x) = x^2 - 1$
C $g(x) = x^2 + 1$
D $g(x) = -x^2$

f(x)
g(x)

4. The quadratic parent function $f(x) = x^2$ was transformed to $g(x) = -2x^2$. Which of the following describes this transformation?

A Reflection across x-axis and vertical stretch

B Vertical shift of two units down

C Reflection across x-axis and vertical compression

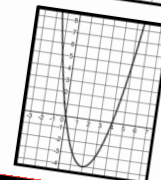D Reflection across x-axis and vertical shift of two units up

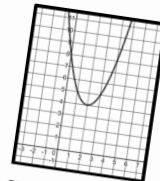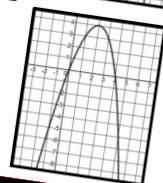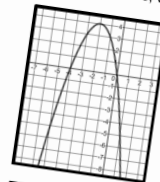5. The quadratic function k is wider and also 10 units above the quadratic function j. Which pair of functions could represent j and k?

A $j(x) = x^2$ and $k(x) = 2x^2 + 10$
B $j(x) = x^2$ and $k(x) = \frac{1}{2}(x + 5)^2$
C $j(x) = x^2$ and $k(x) = \frac{1}{2}x^2 + 10$
D $j(x) = x^2$ and $k(x) = 2(x + 5)^2$

6. The quadratic parent function $f(x) = x^2$ was transformed to $g(x) = f(x + 3)$. Which of the following graphs describes this transformation?

A

f(x)
g(x)

B

g(x)

C

g(x)

D

g(x)   f(x)

7. The quadratic function g is in the form $g(x) = a(x + h)^2 + k$. If a is less than 0, but h and k are both greater than 0, which of the graphs below could represent g?
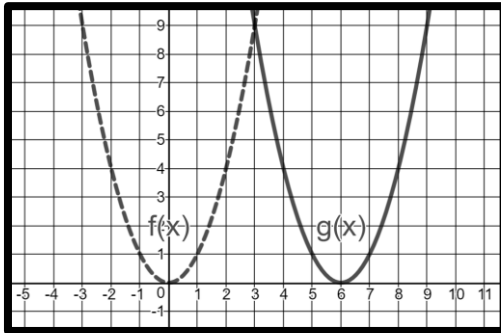
A

B

C

D

TRANSFORMATIONS OF QUADRATIC FUNCTIONS

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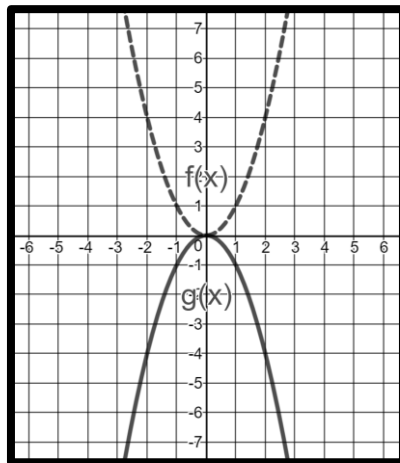
   A Vertical shift of 14 units up

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2. Which of the following functions best represents the transformation below?

   A $g(x) = (x - 6)^2$

   B $g(x) = (x + 6)^2$

   C $g(x) = x^2 - 6$

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   A $g(x) = (x - 1)^2$

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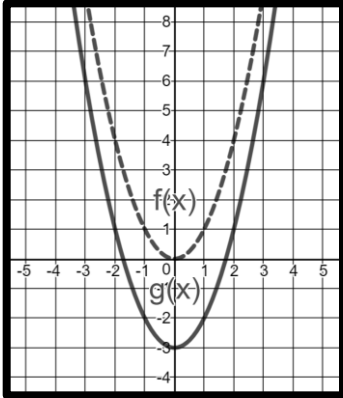
   A Reflection across x-axis and vertical stretch

   B Vertical shift of two units down

   C Reflection across x-axis and vertical compression

   D Reflection across x-axis and vertical shift of two units up

5. The quadratic function k is wider and also 10 units above the quadratic function j. Which pair of functions could represent j and k?
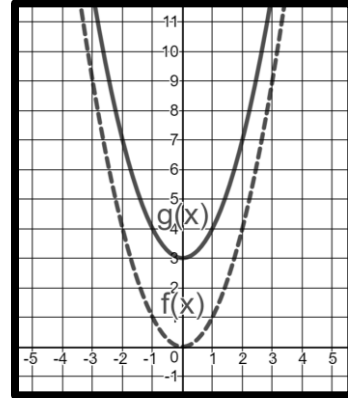
   A $j(x) = x^2$ and $k(x) = 2x^2 + 10$

   B $j(x) = x^2$ and $k(x) = \frac{1}{2}(x + 5)^2$

   C $j(x) = x^2$ and $k(x) = \frac{1}{2}x^2 + 10$

   D $j(x) = x^2$ and $k(x) = 2(x + 5)^2$

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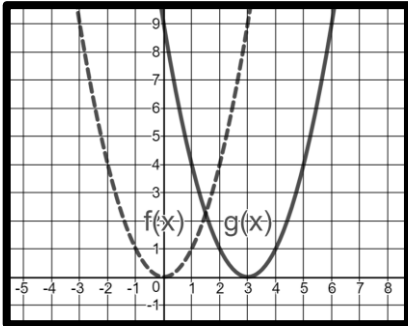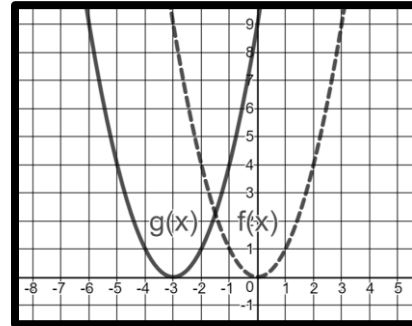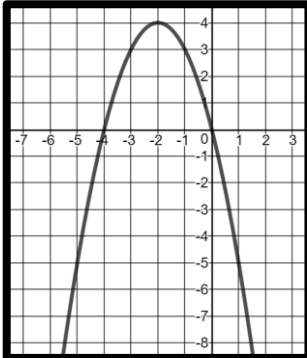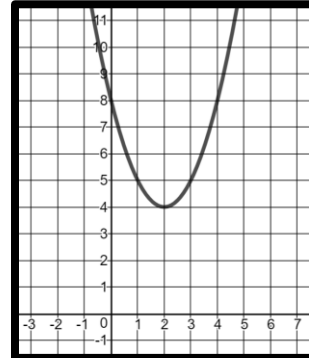
A

C

B

D

7. The quadratic function g is in the form $g(x) = a(x + h)^2 + k$. If a is less than 0, but h and k are both greater than 0, which of the graphs below could represent g?

A
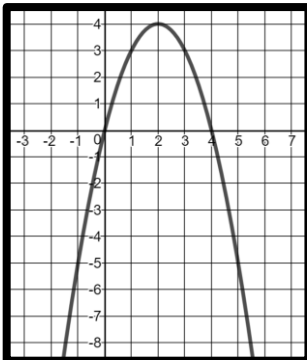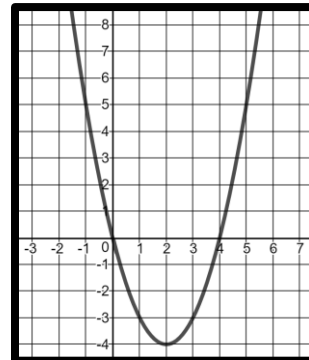

C

B

D

WRITE YOUR ANSWERS HERE!

1. _____   2. _____   3. _____   4. _____   5. _____   6. _____   7. _____

TRANSFORMATIONS OF QUADRATIC FUNCTIONS
ANSWER KEY

1. C   2. A   3. D   4. A   5. C   6. D   7. B