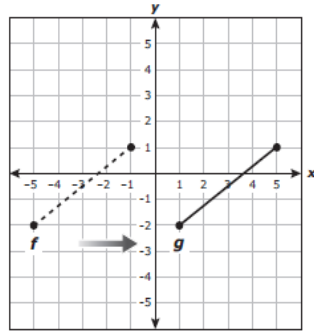


1)



The graph of the function g was obtained from the graph of the function f using a transformation as shown above. Based on the graph, which equation can be used to describe $g(x)$ in terms of $f(x)$?

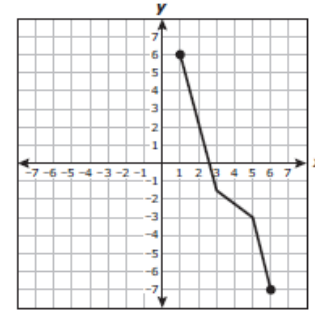
- A** $g(x) = f(x) + 6$ **C** $g(x) = f(x) - 6$
B $g(x) = f(x + 6)$ **D** $g(x) = f(x - 6)$

2)

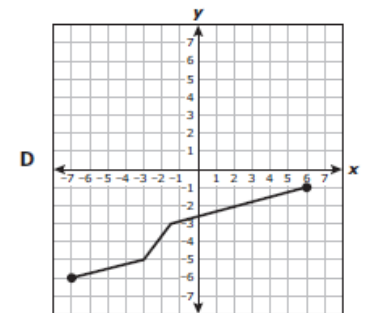
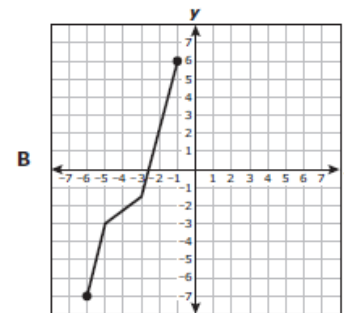
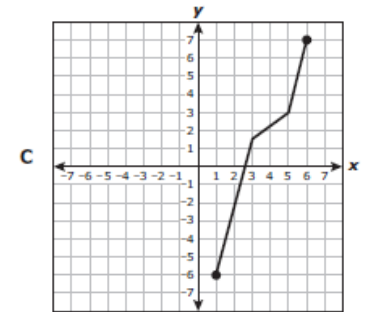
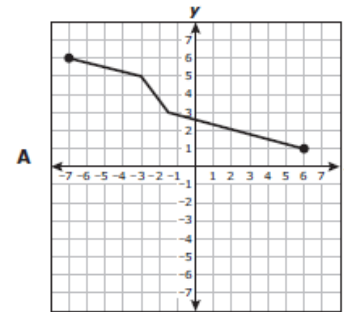
Given the equation $\sqrt{\frac{x}{y}} = 4$, which of the following represents y in terms of x ?

- A** $y = \frac{x}{2}$
B $y = \frac{2}{x}$
C $y = \frac{x}{16}$
D $y = \frac{16}{x}$

The graph of the function f is shown below.



Which grid shows the graph of f^{-1} ?



3)

Algebra II EOC Practice

4)

What is the y -value of the solution to the matrix equation below?

$$\begin{bmatrix} 3 & 2 \\ 2 & 1 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 3 \\ 4 \end{bmatrix}$$

- A -6
- B 14
- C -5
- D 12

5)

Which of the following quadratic functions does not have zeros of -15 and 6 ?

- A $f(x) = \frac{1}{3}x^2 + 3x - 30$
- B $f(x) = -x^2 - 9x + 90$
- C $f(x) = -\frac{2}{3}x^2 - 6x + 60$
- D $f(x) = -x^2 - 9x - 90$

6)

The base of a triangle is 3 inches less than twice its height. If the area of the triangle is 126 square inches, which of the following equations can be used to find h , the height of the triangle in inches?

- A $2h^2 - 3h + 63 = 0$
- B $2h^2 - 3h - 63 = 0$
- C $2h^2 - 3h + 252 = 0$
- D $2h^2 - 3h - 252 = 0$

7)

The table below shows ordered pairs that satisfy the quadratic function f .

x	$f(x)$
-2	31
-1	20
0	11
1	4
2	-1
3	-4
4	-5
5	-4

Based on the table, a solution to the equation $f(x) = 0$ is found in which interval?

- A $-2 < x < -1$
- B $-1 < x < 1$
- C $1 < x < 2$
- D $3 < x < 5$

Algebra II EOC Practice

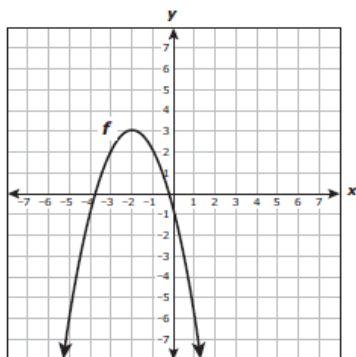
8)

Which figure best describes the graph of $2x^2 + 5y^2 - 2x - 10y - 15 = 0$?

- A Circle
- B Ellipse
- C Parabola
- D Hyperbola

9)

The graph of the quadratic function f is shown on the grid below.



If the graph of f is translated 5 units to the right and 4 units down to create a new graph, which function best represents this new graph?

- A $g(x) = -(x + 3)^2 - 1$
- B $g(x) = -(x - 3)^2 - 1$
- C $g(x) = (3 - x)^2 + 1$
- D $g(x) = (3 - x)^2 - 1$

10)

What value of p is a solution to the equation below?

$$8\sqrt{p} - 1 = 3$$

Record your answer and fill in the bubbles on your answer document.

11)

The formula $P = 2\pi\left(\sqrt{\frac{L}{32}}\right)$ can be used to approximate the period of a pendulum, where L is the pendulum's length in feet and P is the pendulum's period in seconds. If a pendulum's period is 1.6 seconds, which of the following is closest to the length of the pendulum?

- A 1.4 ft
- B 4.2 ft
- C 2.1 ft
- D 3.2 ft

12)

A chemical compound's concentration in milligrams per liter during a reaction can be modeled by the function below, where t represents the number of seconds that have elapsed during the reaction.

$$f(t) = \frac{100}{t^2 + 1}$$

In this situation, what are the domain and range for this function?

- A Domain: $t \geq 0$; range: $0 < f(t) \leq 100$
- B Domain: $t \geq 0$; range: $f(t) \geq 100$
- C Domain: $t \leq 0$; range: $0 < f(t) \leq 100$
- D Domain: $t \leq 0$; range: $f(t) \geq 100$

Name: _____ Date: _____ Period: _____

Algebra II EOC Practice

13)

A monthly cell phone plan charges \$5.00 for the first 300 text messages used and \$0.15 for each additional message. On this plan, what is the number of text messages that must be used in a month in order to make the average cost per message \$0.05?

- A 400
- B 350
- C 900
- D 500

14)

Which function is the inverse of $f(x) = 2^x + 1$?

- A $g(x) = \log_2(x - 1)$
- B $g(x) = \log_2(x) - 1$
- C $g(x) = \log_2(x + 1)$
- D $g(x) = \log_2(x) + 1$

15)

A family spent a total of \$1946 on fast food this year. If this family decreases the amount it spends on fast food by 3% every year, which of the following is closest to the annual amount the family will spend on fast food after 5 years?

- A \$1888
- B \$1671
- C \$1931
- D \$1654