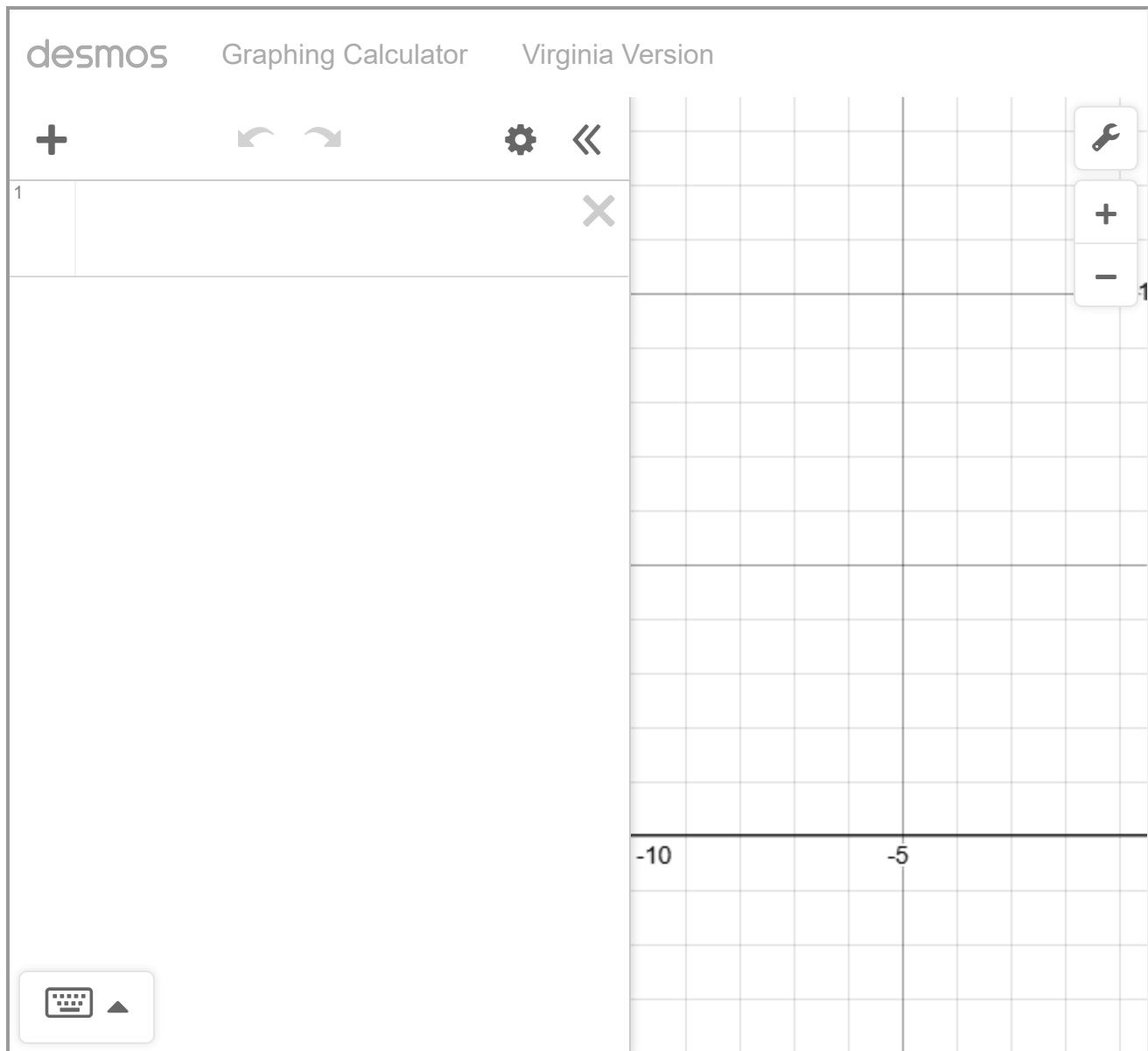


Name:**Class:****Date:**

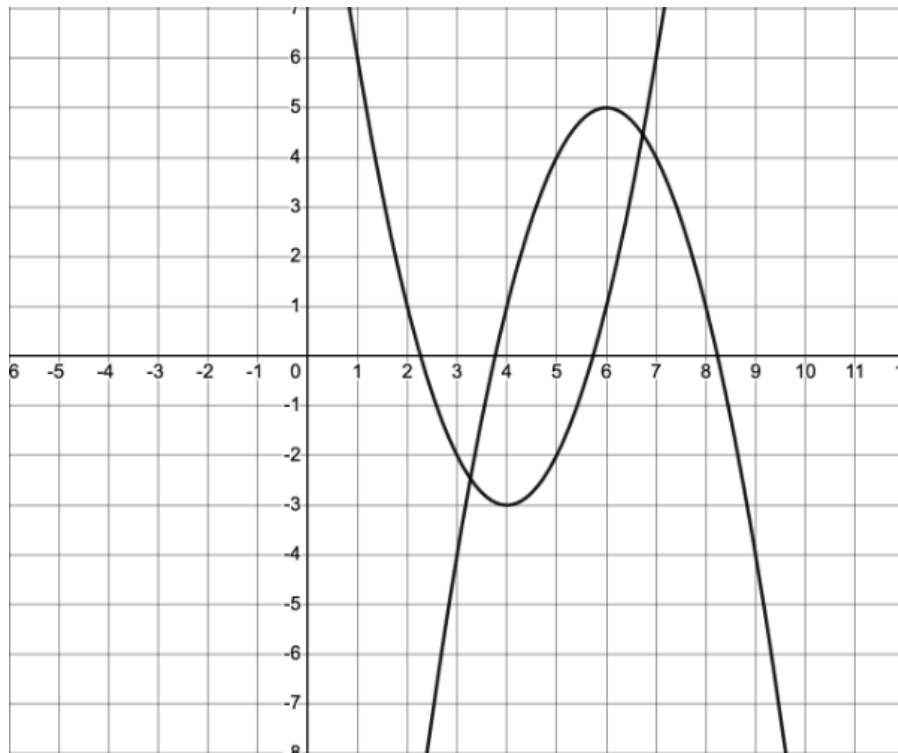
Question #1**Directions:** Select all the zeros of this function.**What are the zeros of this function?**

$$f(x) = 2x^2 + 7x - 15$$

$\frac{3}{2}$	-30	-7
2	$\frac{5}{2}$	-5

Question #2

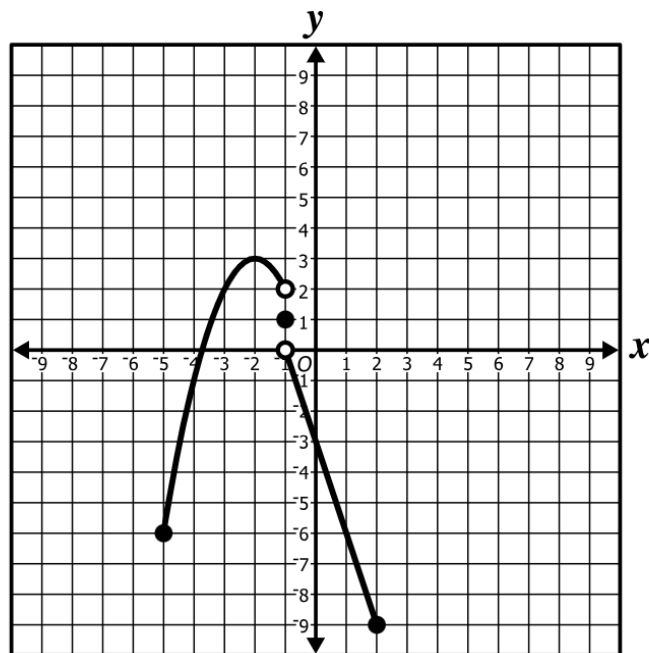
The figure shows the graph of a system of equations. How many real solutions does the system have?



- A **A** 0
- B **B** 2
- C **C** 4
- D **D** 8

Question #3

The graph of a function is shown on a grid.



What appears to be the domain of this function?

- A **A** $\{x \mid -9 \leq x \leq 3\}$
- B **B** $\{x \mid -5 \leq x \leq 2\}$
- C **C** $\{x \mid -5 \leq x \leq -1 \text{ and } -1 < x < 2\}$
- D **D** $\{x \mid -9 \leq x \leq 0 \text{ and } 2 < x \leq 3\}$

Question #4

How does $y = \sqrt{x} - 1$ affect the parent function $y = \sqrt{x}$?

- A **A** It shifts the parent function left 1 unit.
- B **B** It shifts the parent function right 1 unit.
- C **C** It shifts the parent function up 1 unit.
- D **D** It shifts the parent function down 1 unit.

Question #5

Completely factor the following:

$$2x^2 - 6xy - 56y^2$$

- A $2(x - 7y)(x + 4y)$
- B $2(x + 7y)(x - 4y)$
- C $(2x + 7y)(2x - 4y)$
- D $(2x - 7y)(2x + 4y)$

Question #6

When factored completely, $30x^2 - 19x - 5$ is equal to -

- A $5(6x^2 - 19x - 1)$
- B $(5x - 1)(6x + 5)$
- C $(5x + 1)(6x + 5)$
- D $(5x + 1)(6x - 5)$

Question #7**Solve for x:** $4x^2 + 3 = 0$.

- A $x = \pm \frac{\sqrt{3}}{4}$
- B $x = \pm \frac{\sqrt{3}}{2}i$
- C $x = \pm \frac{\sqrt{3}}{2}$
- D $x = \pm \frac{\sqrt{3}}{4}i$

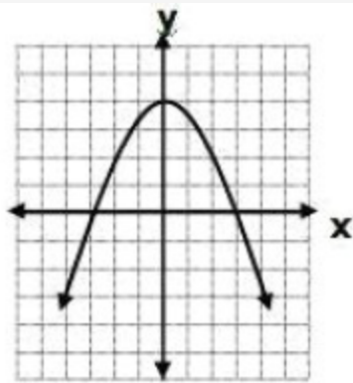
Question #8**Solve** $4x^2 + 4x - 3 \leq 0$.

- A $(-\infty, \infty)$
- B $\left[-\frac{3}{2}, \frac{1}{2}\right]$
- C $\left(-\infty, -\frac{3}{2}\right] \cup \left[\frac{1}{2}, \infty\right)$
- D $[-3, 2]$

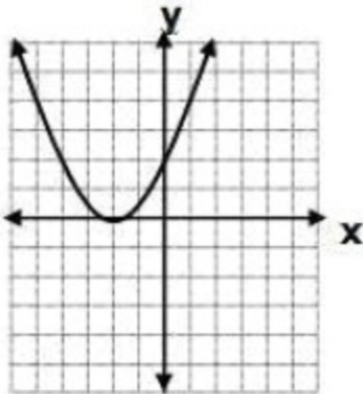
Question #9

Which graph has only imaginary (complex) solutions?

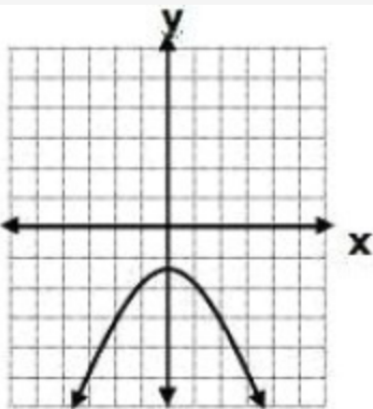
A



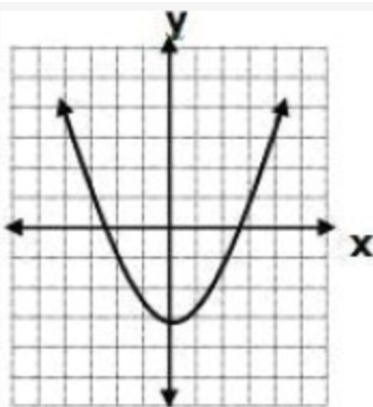
B



C



D



Question #10

What is the solution set for the equation $x^2 - 6x + 4 = 0$?

- A $\{-3 \pm \sqrt{5}\}$
- B $\{3 \pm \sqrt{5}\}$
- C $\{-3 \pm 2\sqrt{5}\}$
- D $\{3 \pm 2\sqrt{5}\}$

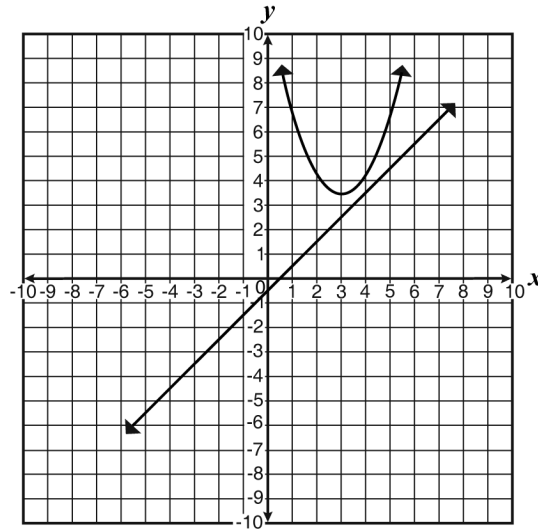
Question #11

Solve the inequality $x^2 - 5x + 7 < 1$.

- A $x = 2$ and $x = 3$
- B $x < 2$ or $x > 3$
- C $2 < x < 3$
- D $x < -3$

Question #12

The graphs of a quadratic and linear equation are shown in the coordinate plane.



Which statement *best* describes the solutions to this system?

- A There are 2 real solutions to this system.
- B There are no real solutions to this system.
- C There is only one real solution to this system.
- D There are infinitely many real solutions to this system.

Question #13

The graphs of $y = -2x - 3$ and $y = -2x^2 - 5x + 2$ are drawn on a coordinate plane. For which values of y do these graphs intersect? Drag and drop the y -coordinates of these solutions to correctly complete the statement below.

The graphs of the given equations intersect when $y =$ (a negative number)

and when $y =$ (a positive number) .

- | | | | | | | | |
|----|----|----|------|----|---|---|-----|
| -8 | -6 | -5 | -2.5 | -1 | 1 | 2 | 2.5 |
|----|----|----|------|----|---|---|-----|

Question #14

Use the integers below to create an ordered pair of one of the solutions to the system of equations.

$$\begin{cases} x - y = 2 \\ x^2 + x - 6 = y \end{cases}$$

(,)

 -8

 0

 -2

 12

 6

 -4
Question #15

Simplify: $\sqrt{-25} - 3\sqrt{-36}$

A $-13i$

B $23i$

C $5 + 18i$

D $13i$

Question #16

Simplify: $(8 + 2i) - (6 + 3i)$

A $2 + 5i$

B $14 + 5i$

C $14 - i$

D $2 - i$

Question #17

What is the product of $(4 + 3i)$ and $(12 - 2i)$?

- A $54 + 28i$
- B $54 - 28i$
- C $42 + 28i$
- D $42 - 28i$

Question #18

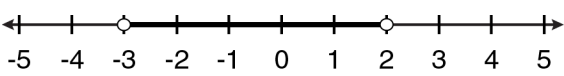
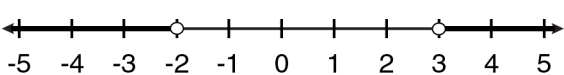
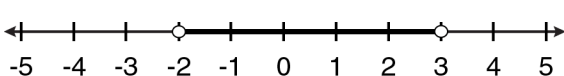
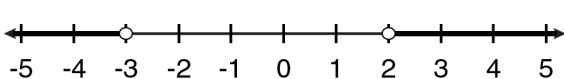
If the average internal body temperature for an animal is $92.5^\circ F$ and it can vary by as much as $0.6^\circ F$. Which of the following absolute value equation's solutions represent the lowest and highest normal temperatures?

- A $|x + 0.6| = 92.5$
- B $|x + 92.5| = 0.6$
- C $|x - 92.5| = 0.6$
- D $|x - 0.6| = 92.5$

Question #19

Which number line shows the solution to the inequality below?

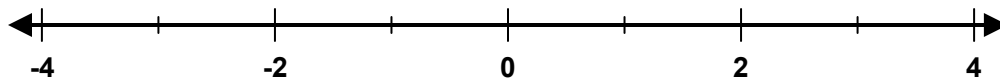
$$|2x + 1| < 5$$

- A 
- B 
- C 
- D 

Which of the following x values will make this inequality $3|4x + 5| \geq 24$ true?

	True	False
-7	<input type="radio"/>	<input type="radio"/>
0	<input type="radio"/>	<input type="radio"/>
5	<input type="radio"/>	<input type="radio"/>
-2	<input type="radio"/>	<input type="radio"/>

What is the solution to the inequality $5|x - 2| + 1 \leq 6$?



Solve: $|2x + 3| - 6 = 7$

- | | |
|---|----------------------|
| A | $x = 8$ and $x = -5$ |
| B | $x = 5$ and $x = -2$ |
| C | $x = 8$ and $x = 5$ |
| D | $x = -8$ and $x = 5$ |