1

3

$$x - 2 = \sqrt{x + 10}$$

Which of the following values of x is a solution to the equation above?

A) -1

B) 1

C) 4

D) 6

2

3

What are the solutions of the quadratic equation $4x^2 - 8x - 12 = 0$?

A) $x = -1$ and $x = -3$

B) $x = -1$ and $x = 3$

C) $x = 1$ and $x = -3$

D) $x = 1$ and $x = 3$

3

4

$$x^2 - 17x - 60$$

Which of the following is equivalent to the expression above?

A) $(x - 5)(x - 12)$

B) $(x + 5)(x - 12)$

C) $(x - 3)(x - 20)$

D) $(x + 3)(x - 20)$

4

3

Which of the following expressions is equivalent to $x^2 + 10x + 21$?

A) $(x + 1)(x + 9) + 12$

B) $(x + 1)(x + 9) + 12x$

C) $(x + 3)(x + 7) + 5$

D) $(x + 3)(x + 7) + 5x$

5

4

$$x(x + 2) = 8$$

Which of the following lists all solutions to the quadratic equation above?

A) 8 and 6

B) 4 and -2

C) -4 and 2

D) $\sqrt{6}$

6

4

Which of the following is a solution to the equation $2x^2 + 4x = 3 + 3x^2$?

A) -1

B) 0

C) 3

D) 6

7

6

$$2x^2 + 7x - 15 = 0$$

If r and s are two solutions of the equation above and $r > s$, which of the following is the value of $r - s$?

A) $\frac{15}{2}$

B) $\frac{13}{2}$

C) $\frac{11}{2}$

D) $\frac{3}{2}$

8

7

$$\sqrt{2x+6} + 4 = x + 3$$

What is the solution set of the equation above?

A) $\{-1\}$

B) $\{5\}$

C) $\{-1, 5\}$

D) $\{0, -1, 5\}$

9

7

$$x^2 + 6x + 4$$

Which of the following is equivalent to the expression above?

A) $(x+3)^2 + 5$

B) $(x+3)^2 - 5$

C) $(x-3)^2 + 5$

D) $(x-3)^2 - 5$

10

8

$$x^2 - 12x + 35 = 0$$

What is the sum of the solutions to the given equation?

A) -35

B) -12

C) 12

D) 35

11

9

$$\sqrt{x-a} = x - 4$$

If $a = 2$, what is the solution set of the equation above?

A) $\{3, 6\}$

B) $\{2\}$

C) $\{3\}$

D) $\{6\}$

12

11

$$\frac{x}{x-3} = \frac{2x}{2}$$

Which of the following represents all the possible values of x that satisfy the equation above?

A) 0 and 2

B) 0 and 4

C) -4 and 4

D) 4

1 D
2 B
3 D
4 A
5 C
6 C
7 B
8 B
9 B
10 C
11 D
12 B