1

Find the value of x in the equation

$$2x^2 - 3x - 5 = 0$$

A) 1
B) 0
C) -1
D) No solution

2

Find the value of x in the equation

$$x(x-3) = -7 - 10x$$

A) $\frac{7+\sqrt{77}}{2}$
B) $\frac{-7+\sqrt{77}}{2}$
C) $\frac{7+\sqrt{21}}{2}$
D) $\frac{-7+\sqrt{21}}{2}$

3

. Which of the following is a solution for the equation $2x^2 - 7|x| + 5 = 0$?

A. 0
B. -1
C. 2
D. -3

4

Find the value of x in the equation

$$2n^2 + 5n - 9 = 0$$

A) $\frac{5+\sqrt{97}}{4}$
B) $\frac{-5+\sqrt{97}}{4}$
C) $\frac{5+\sqrt{47}}{4}$
D) $\frac{-5+\sqrt{47}}{4}$

5

Find the value of x in the equation

$$6v^2 + 3 = -2v$$

A) $\frac{4+\sqrt{76}}{12}$
B) $\frac{-4+\sqrt{76}}{12}$
C) $\frac{2+2\sqrt{19}}{6}$
D) No solution

x^2 − Sum x + Prod. = 0

ex: $x^2 - 5x + 6 = 0$

Sum = +5

Prod = 6

ex: $x^2 - 5x + 6 = 0$

then $x =$ 2, 3

Sum = 5
Prod = 6
} 2, 3

ex: $x^2 + 6x + 9 = 0$

Sum = −6

Prod = 9

ex: $x^2 - 7x + 10 = 0$

then $x =$ 2, 5

Sum = +7
Prod. = 10
} 2, 5

1

The sum of the zeros of $y = x^2 + 6x - 4$ is:

E) -6
F) 6
G) -2
H) 2

2

The sum of the zeros of $y = 3x^2 - 6x - 4$ is:

A) -6
B) 6
C) -2
D) 2

3

The Product of the zeros of $y = 4x^2 + 8x - 12$ is:

A) -3
B) 3
C) 7
D) -7

6

The sum of the zeros of $y = x^2 - 7x + 5$ is:

A) -7
B) 7
C) -5
D) 5

4

The Product of the zeros of $y = 2x^2 + 6x - 10$ is:

A) -5
B) 5
C) -10
D) 10

5

The sum of the zeros of $y = 5x^2 + 6x - 7$ is:

A) 6/5
B) -6/5
C) 7/5
D) -7/5

$(x-a)(x+a)$ → roots, Sols, x-int

$(x-a)^2+b$ → Vertex, Max, Min

b^2-4ac >0 → +ve → 2 Sols.

$=0$ → Zero → 1 Sol.

<0 → -ve → no Sols.

1

$$y = x^2 - 6x - 16$$

The graph of the equation above in the xy-plane is a parabola. Which of the following equivalent forms of the equation includes the x- and y-coordinates of the vertex as constants?

A. $y = (x-3)^2 - 25$

B. $y = x(x-6) - 16$

C. $y = x^2 \quad 2(3x+8)$

D. $y + 16 = x(x-6)$

2

$$y = 7x^2 - 28x + 21$$

The graph of the equation above is a parabola in the xy-plane. In which of the following equivalent forms of the equation do the x-intercepts of the parabola appear as constants or coefficients?

A) $y = 7(x^2 - 4x) + 21$

B) $y = 7x(x-4) + 21$

C) $y = 7(x-2)^2 - 7$

D) $y = 7(x-1)(x-3)$

1

$$x^2 - 2mx = -9$$

$x^2 - 2mx + 9 = 0$

$a = 1$

$b = -2m$

$c = 9$

What is the minimum positive integer value of **m** that allows the above equation to have **two real** solutions?

$b^2 - 4ac > 0$

$(-2m)^2 - 4(1)(9) > 0$

$4m^2 - 36 > 0$

$4m^2 > 36$

$m^2 > 9$

$m > 3$

4, 5, 6, ——

2

$2x^2 - 4x - t = 0$

$$2x^2 - 4x = t$$

In the equation above, t is a constant. If the equation has no real solutions, which of the following could be the value of t ?

A) −3

B) −1

C) 1

D) 3

$a = 2$

$b = -4$

$c = -t$

$b^2 - 4ac < 0$

$(-4)^2 - 4(2)(-t) < 0$

$16 + 8t < 0$

$8t < -16$

$t < -2$

3

$$m x^2 + 4x + 2 = 0$$

In the equation above, What is the positive value of m if the equation has one real solution?

$a = m$

$b = 4$

$c = 2$

$b^2 - 4ac = 0$

$(4)^2 - 4(m)(2) = 0$

Shift solve

$m = 2$

4

$$2x^2 + bx + 8 = 0$$

In the equation above, b is a constant. For what positive value of b does the equation have exactly one real solution?

5

$$x^2 - ax + 6 = 0$$

In the equation above, What is the minimum positive value of a if the equation has two real solutions?

6

$$x^2 - ax + 6 = 0$$

In the equation above, What is the minimum positive value of a if the equation has two real solutions?