Practice Exercise 8

1. Solve the following system: $a + 12b = 5$
$2a - 10b = 66$

A. $a = -53$ and $b = -4$
B. $a = 53$ and $b = -4$
C. $a = -53$ and $b = 4$
D. $a = 53$ and $b = 4$
E. None of the above

2. If $3x + 2y = 13$ and $2x + 3y = 12$, find the value of $x - y$.

A. 1
B. 2
C. 3
D. 5
E. 6

3. Simplify $\dfrac{x+3}{x-2} \bullet \dfrac{2x-4}{x^2-1}$.

A. $x - 3$
B. $x + 3$
C. $x - 2$
D. $x + 2$
E. $\dfrac{x+3}{x-2}$

4. $\sqrt{48}$ divided by which of the following numbers yields a rational number?

A. $\sqrt{2}$
B. $\sqrt{4}$
C. $\sqrt{6}$
D. $\sqrt{12}$
E. $\sqrt{16}$

5. $\left(\sqrt{2}+\sqrt{6}\right)^2 + \left(\sqrt{3}-\sqrt{4}\right)^2$

A. 7
B. $7 + 8\sqrt{3}$
C. 13
D. 15
E. None of the above

6. The computation for the solution of a quadratic equation is:

$$x = \frac{3 \pm \sqrt{(-3)^2 - 4(3)(8)}}{2(3)}$$

The original quadratic equation is:

A. $5x^2 - 3x - 8 = 0$
B. $3x^2 + 5x - 8 = 0$
C. $3x^2 - 3x + 8 = 0$
D. $x^2 - 5x + 3 = 0$
E. $-4x^2 + 5x - 3 = 0$

7. Simplify: $\sqrt{80} - \sqrt{45}$

A. $\sqrt{35}$
B. $\sqrt{5}$
C. $5\sqrt{5}$
D. 5
E. $3\sqrt{5}$

8. The equation $y^2 + 2y - 2 = 0$ has a root of:

A. -3
B. 3
C. $-1 + \sqrt{3}$
D. $\sqrt{3} - 1$
E. $\sqrt{2}$

9. Find the zeros of the function $f(x) = 2x^2 + 3x - 5$.

A. -5
B. -5, 1
C. 5, -1
D. $-\frac{5}{2}$, 1
E. $\frac{5}{2}$, -1

10. Solve for the variable: $2x^2 + 3x - 5 = 0$

A. $-1, \frac{5}{2}$
B. $-1, -\frac{3}{2}$
C. $1, -\frac{5}{2}$
D. $1, \frac{1}{2}$
E. $1, \frac{3}{2}$

Same question as 10.