

Solving Quadratics Mixed Review WS

Name

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Solve using any method:

1. $5x^2 + 31x + 6 = 0$

$$(5x + 1)(x + 6) = 0$$

$$x = -\frac{1}{5} \quad x = -6$$

2. $x^2 - 8 = 0$

$$x^2 = 8$$

$$x = \pm\sqrt{8}$$

$$x = \pm 2\sqrt{2}$$

3. $x^2 - 9x = 27$

$$x^2 - 9x - 27 = 0$$

$$x = \frac{9 \pm \sqrt{189}}{2} = \frac{9 \pm 3\sqrt{21}}{2}$$

4. $5x^2 + 120 = 0$

$$5x^2 = -120$$

$$x^2 = -24$$

$$x = \pm 2i\sqrt{6}$$

5. $2x^2 - 12x = -14$

$$x^2 - 6x + 7 = -7 + 7$$

$$(x - 3)^2 = 2$$

$$x = 3 \pm \sqrt{2}$$

6. $6(2x - 3)^2 + 600 = 0$

$$(2x - 3)^2 = -100$$

$$2x - 3 = \pm 10i$$

$$x = \frac{3 \pm 10i}{2} \quad \text{OR} \quad \frac{3}{2} \pm 5i$$

7. $3x^2 = 4x + 2$

$$3x^2 - 4x - 2 = 0$$

$$x = \frac{4 \pm \sqrt{40}}{6} = \frac{4 \pm 2\sqrt{10}}{6} = \frac{2 \pm \sqrt{10}}{3}$$

8. $x^2 - 7x = 60$

$$x^2 - 7x - 60 = 0$$

$$(x - 12)(x + 5) = 0$$

$$x = 12 \quad x = -5$$

9. $3x^2 - 6x - 6 = 0$

$$x^2 - 2x - 2 = 0$$

$$x^2 - 2x + 1 = 2 + 1$$

$$(x - 1)^2 = 3$$

$$x = 1 \pm \sqrt{3}$$

10. $x^2 - 100 = 0$

$$x^2 = 100$$

$$x = \pm 10$$

11. $2x^2 - 4x + 74 = 0$

$$x^2 - 2x + 37 = 0$$

$$x^2 - 2x + 1 = -37 + 1$$

$$(x - 1)^2 = -36$$

$$x = 1 \pm 6i$$

12. $x^2 + 2x + 5 = 0$

$$x^2 + 2x + 1 = -5 + 1$$

$$(x + 1)^2 = -4$$

$$x = -1 \pm 2i$$