

LESSON PRACTICE

12A

Find the roots, using the quadratic formula when necessary.

$$1. \quad x^2 + 6x + 2 = 0$$

$$2. \quad x^2 - 5x + 4 = 0$$

$$3. \quad 3x^2 + 7x - 1 = 0$$

$$4. \quad a^2 - 10a = 11$$

$$5. \quad 2q^2 + 2 = 17q$$

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6. $5x^2 + 15x + 10 = 0$

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

7. $\frac{1}{4}r^2 - \frac{1}{2}r + \frac{3}{2} = 0$

$$0 = 1 + x^2 - 3x - 5$$

8. $16x^2 = 2x + 4$

$$0 = 1 + x^2 + 3x - 5$$

9. $2x^2 + 3x - 8 = 0$

$$0 = 1 + x^2 + 3x - 5$$

10. $y^2 = \frac{3}{4}y + 2$

$$0 = 1 + x^2 + 3x - 5$$

SYSTEMATIC REVIEW

12E

Find the roots, using the quadratic formula when necessary.

1. $x^2 + 2x - 8 = 0$

2. $x^2 - 6x = -8$

3. $2x^2 - 15x + 7 = 0$

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

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

6. $x^2 + 2x - 15 = 0$

Complete the square.

7. $4x^2 + 28x + \underline{\hspace{2cm}}$

8. $9x^2 - 36x + \underline{\hspace{2cm}}$

9. $36x^2 + \underline{\hspace{2cm}} + 25$

10. $81x^2 - \underline{\hspace{2cm}} + 121$

Solve for X. Complete the square when necessary.

11. $x^2 + 5x - 14 = 0$

12. Check the answers to #11 by placing them in the original equation.

13. Expand $(2X + 1)^5$.

$$0 = X^0 - X^1 - X^2 - X^3 - X^4 - X^5$$

$$0 = 0 + X^2 + X^3 + X^4 + X^5$$

14. What is the third term of $(1/3 X + 2)^5$?

$$0 = X^0 - X^1 - X^2 - X^3 - X^4 - X^5$$

$$0 = 0 + X^2 + X^3 + X^4 + X^5$$

15. Expand $(X - 3/5)^3$.

$$0 = 2X - X^2 + X^3 - 0$$

$$0 = X^2 + X^3 - 5/2$$

16. Find the cube root of $8X^3 + 12X^2 + 6X + 1$.

$$0 = X^0 - X^1 - X^2 - X^3 - 8$$

$$0 = 0 + X^2 + X^3 - 5$$

Put in standard form.

17. $\frac{10+i}{5i}$

18. $\frac{10}{5-\sqrt{8}}$

$$0 = 0 + X^2 + X^3 - 0$$

$$0 = 0 + X^2 + X^3 - 2$$

Simplify, and combine like terms when possible.

19. $\frac{2+3\sqrt{6}}{1-\sqrt{6}}$

20. $\frac{6-\sqrt{2}}{10\sqrt{3}-8}$