

LESSON PRACTICE

Find the roots, using the quadratic formula when necessary.

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

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

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

4. $A^2 - 10A = 11$

5. $2Q^2 + 2 = 17Q$

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

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

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

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

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

LESSON PRACTICE

Find the roots, using the quadratic formula when necessary.

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

2. $7 = 2X^2 + X$

3. $Q^2 - 6Q + 3 = 0$

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

5. $P = P^2 - 2$

6. $x^2 + \frac{1}{5}x + 5 = 0$

7. $20x^2 + 40x = 30$

8. $5A^2 + 2A - 1 = 0$

9. $3x^2 = -5x$

10. $AX^2 + BX + C = 0$

SYSTEMATIC REVIEW

Find the roots, using the quadratic formula when necessary.

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

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

3. $x^2 - 3x + 1 = -6x$

4. $x^2 + 4x - 12 = 0$

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

6. $x^2 + 8x = -16$

Complete the square.

7. $x^2 - 26x + \underline{\hspace{1cm}}$

8. $2x^2 + 9x + \underline{\hspace{1cm}}$

9. $x^2 + \underline{\hspace{1cm}} + 400$

10. $x^2 - \underline{\hspace{1cm}} + 14$

Solve for X. Complete the square when necessary.

11. $x^2 + \frac{1}{3}x - \frac{4}{3} = 0$

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

13. Expand $(X - A)^6$.

14. What is the second term of $(\frac{1}{2}X - 3A)^4$?

15. Expand $(5 - 2A)^3$.

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

Put in standard form.

17. $\frac{6 + 5i}{3i - 2}$

18. $\frac{2 + \sqrt{-49}}{2 - \sqrt{-49}}$

Simplify, and combine like terms when possible.

19. $\frac{2}{3 - \sqrt{7}}$

20. $\frac{2 + \sqrt{5}}{2\sqrt{5} - 4}$

SYSTEMATIC REVIEW

Find the roots, using the quadratic formula when necessary.

1. $2X^2 - 9X - 7 = 0$

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

3. $3X^2 + 7X + 4 = 0$

4. $X^2 - 6X + 12 = 0$

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

6. $4X^2 + 1 = 4X$

Complete the square.

7. $X^2 + 5X + \underline{\hspace{1cm}}$

8. $X^2 - 1/2 X + \underline{\hspace{1cm}}$

9. $25X^2 + \underline{\hspace{1cm}} + 1$

10. $49X^2 - \underline{\hspace{1cm}} + 4$

Solve for X. Complete the square when necessary.

11. $X^2 - 12X + 20 = 0$

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

13. Expand $(X + 1)^4$.

14. What is the fifth term of $(\frac{1}{2}X - 3A)^4$?

15. Expand $(10 - 1/X)^3$.

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

Put in standard form.

17. $\frac{4 - 3i}{2i}$

18. $\frac{10 + \sqrt{-A}}{10 - \sqrt{-A}}$

Simplify, and combine like terms when possible.

19. $\frac{9}{7 + \sqrt{10}}$

20. $\frac{4 - \sqrt{6}}{3\sqrt{7} + 5}$

TEST

Circle your answer.

1. Which of the following cannot be solved using the quadratic equation?

A. $X^2 - 64 = 0$
 B. $X^3 + 3Y + 1 = 0$
 C. $4A^2 + 8A = 16$
 D. $Y^2 = 2Y + 4$

2. The part of the quadratic formula written under the radical is:

A. $B^2 + 4AC$
 B. $B^2 - 4AC$
 C. $-B^2 \pm 4AC$
 D. $A^2 + 4BC$

3. All quadratic equations can be solved by:

A. factoring
 B. both factoring and the quadratic formula
 C. the quadratic formula
 D. none of the above

4. In order to find values of A, B, and C in the quadratic formula, an equation should be in the form:

A. $AX^2 = BX + C$
 B. $X^2 + AX = B - C$
 C. $AX^2 + BX + C = 0$
 D. $AX^2 + BX = -C$

5. The solution to $7X^2 + 2X - 1 = 0$ can be written as:

A. $X = \frac{-2 \pm \sqrt{2^2 - (4)(7)(-1)}}{2(7)}$

B. $X = \frac{2 \pm \sqrt{2^2 - (4)(7)(-1)}}{2(7)}$

C. $X = \frac{-2 \pm \sqrt{2^2 + (4)(7)(-1)}}{2(7)}$

D. $X = \frac{-2 \pm \sqrt{(-2)^2 - (4)(7)(-1)}}{2}$

For #6–10, solve using the best method.

6. $X^2 - 36 = 0$

A. $X = 6, -6$
 B. $X = 4, 9$
 C. $X = 0, 6$
 D. $X = \pm 9$

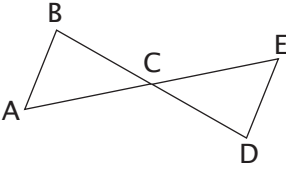
7. $X^2 + 3 = -3X$

A. $X = \frac{-3 \pm \sqrt{3}}{2}$

B. $X = \frac{-3 \pm i\sqrt{3}}{6}$

C. $X = \frac{3 \pm i\sqrt{3}}{2}$

D. $X = \frac{-3 \pm i\sqrt{3}}{2}$

8. $5X^2 = -2X + 1$
- A. $X = \frac{-1 \pm \sqrt{5}}{5}$
- B. $X = \frac{-1 \pm \sqrt{6}}{5}$
- C. $X = \frac{1 \pm 2\sqrt{6}}{5}$
- D. $X = \frac{1 \pm \sqrt{5}}{5}$
9. $4X^2 + 20X = -25$
- A. $X = \pm 5/2$
- B. $X = 4, 5$
- C. $X = 5/2$
- D. $X = -5/2$
10. $4X^2 + 4X - 10 = 0$
- A. $X = \frac{-1 \pm i\sqrt{11}}{2}$
- B. $X = i, -2i$
- C. $X = \frac{-1 \pm \sqrt{11}}{2}$
- D. $X = \frac{-1 \pm 3i}{2}$
11. $\triangle ABC$ is congruent to $\triangle EDC$.
 \overline{AB} corresponds to:
- A. \overline{BA}
- B. \overline{AC}
- C. \overline{ED}
- D. \overline{BC}
- 
12. A quadrilateral with only one pair of parallel sides is a:
- A. rhombus
- B. trapezoid
- C. parallelogram
- D. regular polygon
13. Two sides of triangle A are congruent to the corresponding sides of triangle B. The angle formed by the corresponding sides is 25° in both triangles. What postulate may be used to prove triangles A and B congruent?
- A. SSS
- B. SSA
- C. SAS
- D. cannot be proved congruent
14. Each angle of triangle ABC is congruent to the corresponding angle of triangle DEF. What postulate may be used to prove $\triangle ABC$ and $\triangle DEF$ congruent?
- A. SSS
- B. AAA
- C. SAS
- D. cannot be proved congruent
15. Five yards are a little less than:
- A. 5 meters
- B. 10 meters
- C. 2 meters
- D. 6 meters