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Probatio, Quiz 1 – Lessons 1-3 (Form A)

Name: _____ Date: _____ Score: _____/54 pts.

Answer the following questions about the open phrase $-(2xy)^3 \cdot 4x^2y^4$.

1. What is the base of the exponent 3? _____
2. What is the base of the exponent 4? _____

Evaluate the following closed phrase according to arithmetic order of operations.

3. $4 + 2[(5 - 3)^2 + (2^2 - 5)^3]$

Write the general forms for the following rules for operating with exponents.

4. Quotient Rule for Exponents
5. Power of a Product Rule for Exponents

Evaluate the following closed phrases using the appropriate rule(s) for operations with powers.

6. $\left(\frac{2^6}{2^4}\right) \cdot \left(\frac{4^2}{4^4}\right)$

7. $\left(\frac{5^2}{5^3}\right)^{-3}$

Simplify the following open phrases completely.

8. $\frac{18x^2y^8}{-21x^4y^6}$

9. $\left(\frac{x^{-4}y^2}{x^2y^{-4}}\right)^2$

10. $\left[\frac{(2x^2y^3)^2}{(-2x^2y^4)^{-2}}\right]^3$

Unit I, Part A Quiz (Form A)

Name: _____ Date: _____ Score: _____/54 pts.

1. Write the quadratic formula generalization. (2 pts.)

2. Define the discriminant. State the possible discriminant values and the nature of their corresponding solution sets. (4 pts.)

Solve the following relations and state the solution set in set notation. (4 pts. each)

3. $x^2 - 9 = 0$

5. $x^2 - 12x + 27 = 0$

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

Solve the following relations by completing the square. State the solution set in set notation. (5 pts. each)

6. $x^2 + 8x + 3 = 0$

7. $2x^2 - 4x - 3 = 0$

Solve the following relations. State the solution set in set notation. (5 pts. each)

8. $x^2 - 3x - 28 = 0$

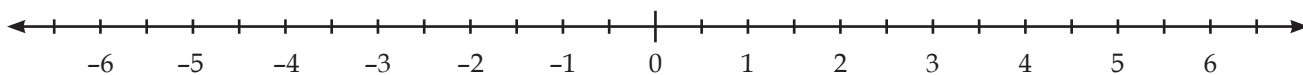
10. $2m^2 + 4m - 30 = 0$

9. $7x^2 - 3x + 5 = 0$

11. $3x^2 - 5x - 4 = 0$

Solve the following quadratic inequality. State the solution set in set notation and graph it on a number line. (6 pts.)

12. $2x^2 - x - 6 = 0$



Unit I Test (Form A)

Name: _____ Date: _____ Score: _____/96 pts.

1. Write the quadratic formula generalization. (2 pts.)

2. The zeros of a quadratic function graph as what points? (2 pts.)

3. What symmetry does an even function show? (2 pts.)

4. State the vertex form generalization for a quadratic function. (2 pts.)

State the nature of the solutions for the following relations using the discriminant. Then solve them and state the solution set in set notation. (6 pts. each)

5. $x^2 + 6x = 7$

6. $2x^2 - 3x + 7 = 0$

7. $5x^2 - 8x - 3 = 0$

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

Solve the following quadratic inequality. State the solution set in set notation and graph it on a number line. (6 pts. each)

9. $x^2 + 3x > 4$

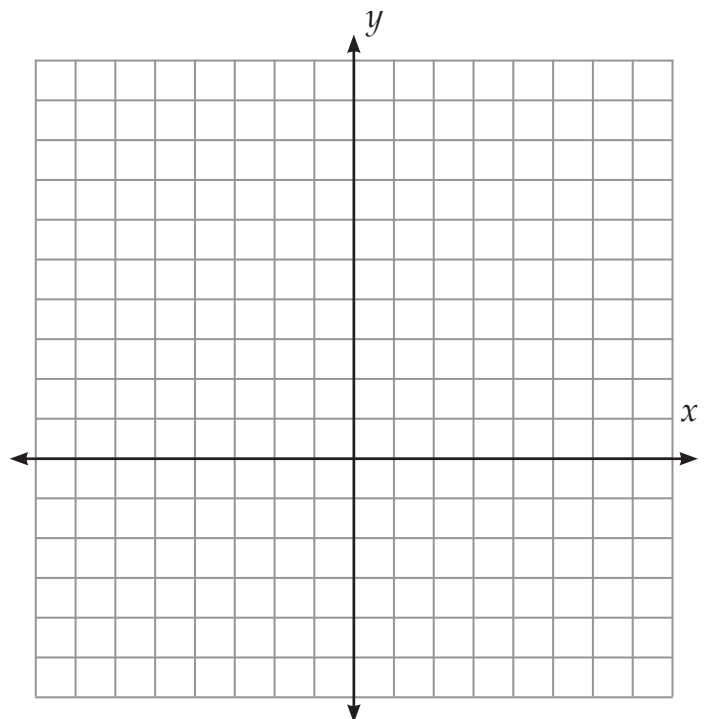
Solve the following relations and state the solution set in set notation. (5 pts. each)

10. $x^4 - 10x^2 + 9 = 0$

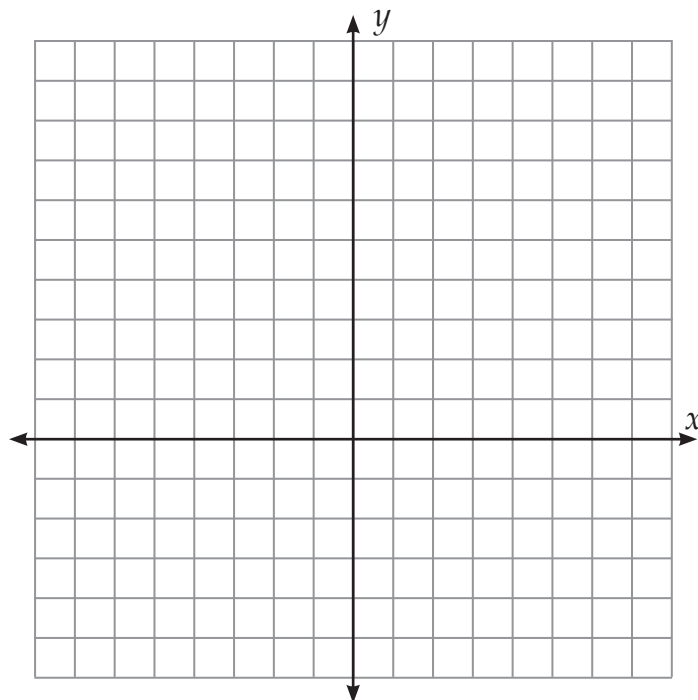
11. $x^{-2} + x^{-1} = 6$

Graph the following quadratic functions and state their defining characteristics. Then solve and state the intercepts in set notation. (8 pts. each)

12. $f(x) = 2x^2 - 5x + 8$



13. $f(x) = -x^2 - 2x + 2$



Solve the following word problems. State your answer in a complete sentence with proper **units**. (8 pts. each)

14. The length of a rectangle is twice the width. The area is 162 square yards. Find the length and width.

15. A car travels 240 miles at a certain speed. If the speed had been 20 miles per hour faster, the trip would have been made in 2 hours less time. Find the speed.