Kennedy Catholic High School Math Placement Exam
Practice Test

First and Last Name _____

Part 1 (no calculator)
A calculator is not allowed for this portion of the test. Show your work. Communicating your thought process is just as important as obtaining correct answers. You have 15 minutes to complete Part 1.

1. Find the greatest common factor of the set of numbers. 36 and 54	**2. Write $6\frac{1}{4}$ as an improper fraction.**	**3. Write $\frac{45}{7}$ as a mixed number.**
4. Add or subtract. Write your answer as a fraction or mixed number in reduced form. $\frac{3}{11}-\frac{7}{11}$	**5. Add or subtract. Write your answer as a fraction or mixed number in reduced form.** $\frac{5}{4}+\frac{2}{5}$	**6. Compare the pair of numbers using the symbol <, >, *or* =.** $0.00059 \quad ? \quad 0.0017$
7. Compare the pair of numbers using the symbol <, >, *or* =. $-7.35 \quad ? \quad -7.12$	**8. Multiply. Write your answer as a fraction or mixed number in reduced form.** $\frac{3}{13}\times\frac{4}{5}$	**9. Divide. Write your answer as a fraction or mixed number in reduced form.** $\frac{4}{9}\div\frac{8}{3}$

10. Add/subtract to simplify the expression.

$-8 - 14 + 19$

11. Add/subtract to simplify the expression.

$26 - 9 - (-6)$

12. Multiply/divide to simplify the expression.

$(-5)(-3)(-2)$

13. Multiply/divide to simplify the expression.

$$\frac{(-75)(3)}{-5}$$

14. Use order of operations to simplify the expression.

$6 \div 3 \cdot 2 - 2$

15. Use order of operations to simplify the expression.

$(7-2)^2 - 10 \div 5$

16. Simplify each expression.

a. $6^2 =$

a. $-6^2 =$

a. $(-6)^2 =$

a. $-(-6)^2 =$

17. Write $12^8 \cdot 12^{15}$ as a single base raised to a single power.

18. Simplify the radical expression. Give the answer in reduced radical form, if necessary.

$\sqrt{75}$

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Part 2

A calculator is allowed for this portion of the test. Show your work. Communicating your thought process is just as important as obtaining correct answers. You have 60 minutes to complete Part 2.

1. If 9 pounds of jellybeans cost $6.30, how much will 5 pounds of jellybeans cost?

2. Write an algebraic expression for the phrase.

Twelve more than a number

3. Write an algebraic expression for the phrase.

The product of 7 and the cube of a number

4. Evaluate the expression for $a = 4, b = 2, c = 8$.

$$b - (3a + c)$$

5. Carlos has $250 to spend. He bought an Xbox for $190.00. How many games can he buy if each game costs $7.00?

6. Simplify the algebraic expression.

$$(2x^2 + 7x - 3) + (x^2 - 5x - 1)$$

7. Simplify the algebraic expression.

$$(x + y) - (2x - 7)$$

8. Simplify the algebraic expression.

$$3x(2x - 4)$$

9. Simplify the algebraic expression.

$$(x - 11)(4x + 6)$$

10. Simplify the exponential expression, writing the answer using only positive exponents.

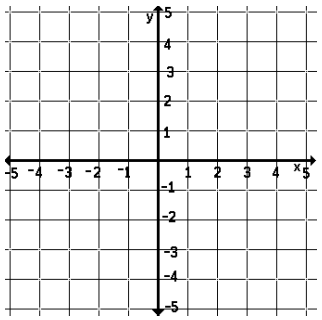
$$\frac{w^0 x^{10} x^2 y^6 z^{-2}}{y^2 z^{-4}}$$

11. Simplify the exponential expression, writing the answer using only positive exponents.

$$(p^2)^3$$

12. Find the slope of the line that passes through the points (-2, -7) and (6, -5).

13. Graph the line $2x + 3y = 6$.



14. Tell if (2, -3) is a solution to the equation $3x - 4y = 18$ (circle yes or no). <u>Show</u> how you determined your answer.

yes no

15. Write an equation in slope-intercept form, $y = mx + b$, for the line that passes through the points (0, 5) and (2, -1).

16. John read three-fourths of a book and is now on page 90. How many pages are in the book altogether?

17. Solve the equation.

$$7x = 2(5x - 12)$$

18. Solve the equation.

$$2\sqrt{3x + 1} = 14$$

19. Solve the equation.

$$|x - 2| = 7$$

20. Solve and graph the inequality.

$$-5x < 35$$

21. Solve and graph the inequality.

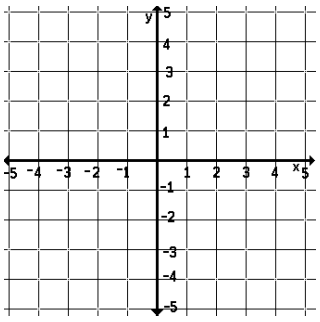
$$3x - 8 \geq 6x - 14$$

22. Solve the equation for m.

$$p = 4(3 + m) - 5r$$

23. Graph the inequality.

$$y > \frac{4}{3}x + 3$$



24. Solve the proportion.

$$\frac{3}{4} = \frac{4x + 1}{12}$$

25. Solve the linear system.

$$2x - 3y = 5$$
$$x + 2y = -1$$

x =

y =

26. Factor the quadratic expression.

$$14xy^2 - 2xy$$

27. Factor the quadratic expression.

$$x^2 + 7x + 12$$

28. Factor and simplify the expression.

$$\frac{x^2 + 2x - 8}{x + 4}$$

Quadratic Formula: $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

29. Use factoring or the Quadratic Formula to solve the equation.

$$16x^2 - 25 = 0$$

30. Use factoring or the Quadratic Formula to solve the equation.

$$x^2 - 16 = 6x$$

31. Graph the quadratic function. Clearly show the vertex and all intercepts of the graph.

$$y = x^2 - 4$$