

Name _____

Each problem is worth 5 point: 3-points for Work/Explanation and 2 points for the correct answer. Use another piece of paper to complete your work. Number the problems and box your answers. Partial credit will be awarded. Neatness counts. Single cross outs are ok.

Write and sign the Academic Honesty Statement below.

Factor the polynomial completely.

1) $8x^3 - 125$

Simplify.

2) $4 + \frac{1}{12}$
 $4 - \frac{2}{9}$

Solve the equation.

3) $-7[5x + 7 - 2(x + 1)] = -4x + 3$

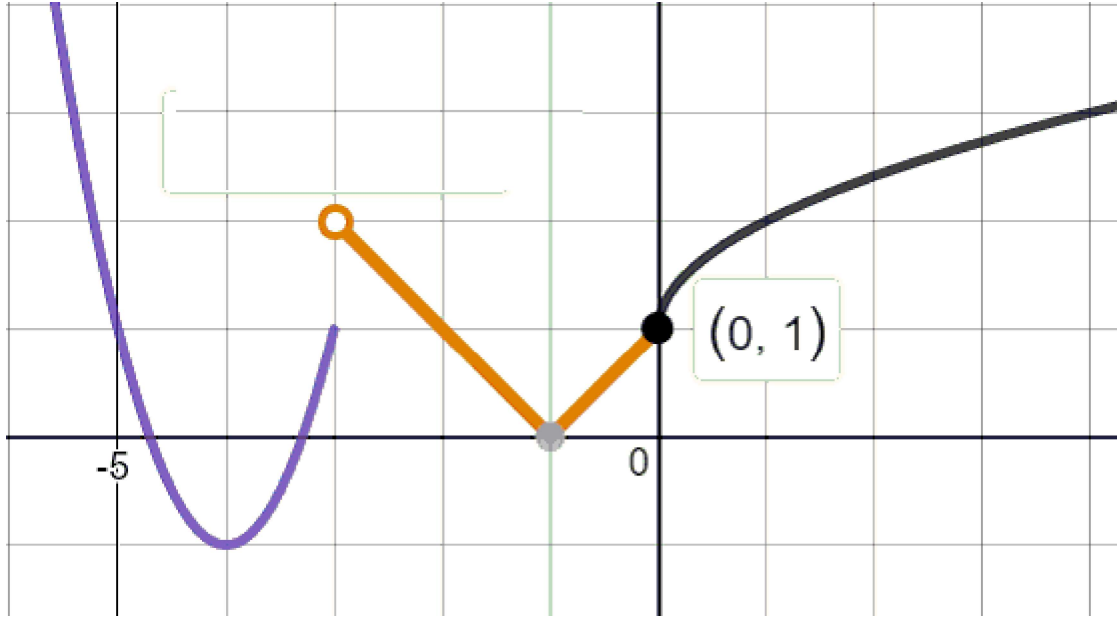
Solve using the substitution method.

4) $y = 4x - 4$
 $4x + y = 12$

Solve the combined inequality. Write the solution in interval notation.

5) $-35 \leq -5x - 5 < -25$

6) Write a piece-wise defined function for the graph of these toolkit functions below



Solve.

7) Sales of frozen pizza for a club fund-raiser increased from 600 one year to 725 the next year. What was the percent of change?

Simplify.

8) $3\{[6(x - 1) + 2] - [2(3x - 1) + 2]\}$

Find the requested composition of functions.

9) Given $f(x) = 5x + 12$ and $g(x) = 4x - 1$, find $f \circ g(x)$.

Determine the intervals on which the function is increasing, decreasing, and constant.

10)

