



Name _____

Show all work in the space provided. Circle the final answer. **Due Monday, August 31.**

Solve for x:

1) $-4(3 - x) = 8$	2) $3x - 2(x + 1) = 0$
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Solve the system of equations:

3) $-2x + y = 8$ $y = -3x - 2$

Factor each of the following polynomials:

4) $x^2 - x - 72$	5) $10m^3n^2 - 15m^2n$
6) $x^2 + 12x + 36$	7) $x^2 - 64$
8) $a^2 - 10a + 24$	9) $3x^2 + 18x + 27$



Solve the following quadratic equations:

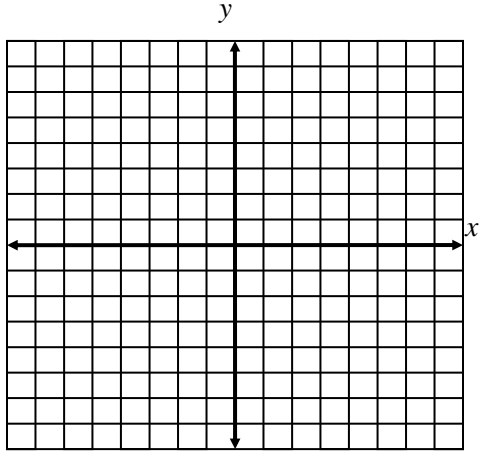
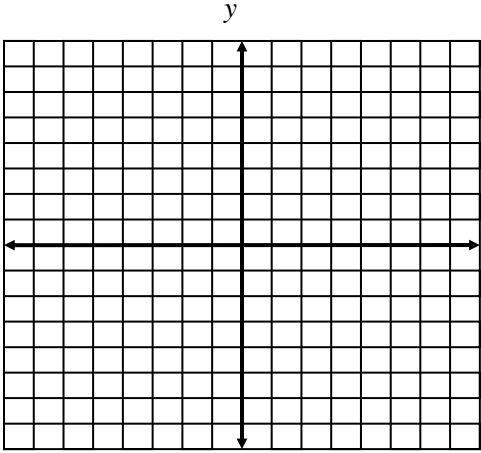
10) $(x+1)(x+3) = 0$	11) $p^2 + 6p = 0$
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Simplify each of the following:

12) $(-3x^2 + 4x - 7) + (2x^2 - 7x + 8)$	13) $(-4a^3 + 2a^2 - a - 7) - (3a^3 - 2a^2 - a + 8)$
14) $(x+7)(x+5)$	15) $-3xy^3(x-2y)$
16) $(15a^4b^2c)^0$	17) $(8a^3b^2)(2a^{-4}b^5)$
18) $\frac{(3x^2y)^3}{6x^{-2}y^5}$	19) $(x+6)^2$



Graph each of the following without using a calculator.

<p>20) $y = -\frac{3}{4}x + 4$</p> 	<p>21) $y = -3x$</p> 
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Given the following matrices, $A = \begin{bmatrix} 6 & -3 \\ 2 & 1 \end{bmatrix}$, $B = \begin{bmatrix} 5 & 6 \\ 2 & -1 \end{bmatrix}$, $C = [0 \quad 5]$, determine:

22) $A + B$	23) $A - B$	24) $-2C$
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Answer the following questions concerning **linear** equations

25) Determine the slope of the line containing the points (6,-2) and (-1,5).	26) Determine an equation for a line with slope $\frac{1}{2}$ and y-intercept at (0, -3).
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Perform the given operations with fractions. Do not use a calculator. Show all work and simplify your final answer.

27) $\frac{1}{2} + \frac{1}{4}$	28) $2\left(\frac{3}{4}\right)$	29) $\frac{3}{4} - \frac{5}{7}$
30) $\frac{17}{5} + \frac{2}{10}$	31) $\frac{1}{x} + \frac{5}{x}$	32) $\frac{5}{2} \cdot \frac{1}{4}$
33) $\frac{2}{3} \div 8$	34) $\sqrt{\frac{9}{16}} + 5$	35) $\left(\frac{5}{6} + \frac{2}{10}\right) - 2\left(\frac{1}{4}\right)$

Standard Form: $Ax + By = C$ where A and B are not both zero	Slope-Intercept Form: $y = mx + b$ where m = slope and b = y-intercept	Let (x_1, y_1) and (x_2, y_2) be two points in the plane. slope = $\frac{y_2 - y_1}{x_2 - x_1}$
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