

1. Solve these equations:

a.  $7x + 2 = x - 16$

b.  $2(x + 9) - x = 36$

c.  $\frac{5}{6}x - \frac{4}{9}x = -\frac{2}{3}$

d.  $\frac{x}{3} - \frac{x-5}{5} = 7$ 

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2. Solve for the indicated variable:

a.  $I = Prt$  Solve for  $t$ .

b.  $3x - 5y = 11$  Solve for  $x$ .

c.  $F = \frac{9}{5}C + 32$  Solve for  $C$ .

d.  $5x + 4y = 8$  Solve for  $y$ .

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3. Solve and graph on the number line at the right. Give all solutions in interval notation.

a.  $x \geq -3$  \_\_\_\_\_

b.  $y + 5 \geq 3$  \_\_\_\_\_

Interval:

Interval:

c.  $-\frac{1}{5}y > 7$  \_\_\_\_\_

d.  $2(1 - y) - 4 < 6$  \_\_\_\_\_

Interval:

Interval:

e.  $5(x + 1) \leq 3x + 1$  \_\_\_\_\_

Interval:

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4. Solve these absolute value equations:

a.  $|2x + 1| = 3$

b.  $|2y| = -10$

c.  $\left|\frac{3y - 1}{2}\right| = 8$

d.  $|3x + 4| + 3 = 10$ 

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## Math 030 Review Exam #1

5. Write an equation and solve it. Only an algebraic solution is acceptable.
- The sum of three consecutive integers is 147. Find all three of the integers.
  - If 17 is subtracted from 3 times a number, the result is 220. Find the number.
  - Five times a certain number plus 23 is 368. Find the number.
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6. Solve and graph these absolute value inequalities on the number line given to the right of the problem. Give all solutions in interval notation.

a.  $|2x + 1| \leq 5$  \_\_\_\_\_ Interval:

b.  $\left| \frac{x - 7}{4} \right| > 3$  \_\_\_\_\_ Interval:

c.  $|x + 4| - 6 > 5$  \_\_\_\_\_ Interval:

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7. Set up a table of values for these equations and then use **graph paper** to **graph** them:

a.  $x = 2$

b.  $y = -3$

c.  $y = -2x$

d.  $y = -3x + 4$

e.  $y = -\frac{2}{3}x + 4$

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8. Find the slope of the line determined by the given points. Then find the equation of the lines. Use **Slope Intercept form** ( $y = mx + b$ ) for the equation.

a. (6,5) and (4,2)

b. (2,7) and (-5,-7)

c. (6,2) and (6,-5)

d. (3,4) and (2,4)

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## Math 030 Review Exam # 1

9. Find the **x and y intercepts** and a third point for these equations and **graph** the line using **graph paper**. Give two coordinates for each point.

a.  $x - 2y = -6$                       x intercept: \_\_\_\_\_ y intercept: \_\_\_\_\_

b.  $6x - 3y = -9$                       x intercept: \_\_\_\_\_ y intercept: \_\_\_\_\_

c.  $y = -2x + 6$                       x intercept: \_\_\_\_\_ y intercept: \_\_\_\_\_

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10. Find the equation of the line and write it in Slope Intercept form:

( $y = mx + b$ ).

a. Slope = -3 ; passing through (0,4)

b. Slope = 2 ; passing through (-2, -4)

c. Slope =  $\frac{3}{4}$  ; passing through (-3,5)

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11. Use the **Point-Slope form** ,  $y - y_1 = m(x - x_1)$ , to find the equations of the lines. Write your answer in **Slope Intercept form** ( $y = mx + b$ ) .

a. A line passes through (4,-1) and (-2,5).

b. A line passes through (2,-4) and is parallel to a line with a slope = -2.

c. A line passes through (-6,1) and is perpendicular to the line whose equation is  $x + 3y = 9$ .

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## Math 030 Review Exam # 1

12. Use **graph paper** and graph the solutions to these inequalities.

a.  $2x + 5y \leq 10$

b.  $y > -\frac{3}{4}x - 2$

c.  $x - y \geq -4$

d.  $-3x - 2y < -8$

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13. Use graph paper to graph the solution to these systems of equations. Show your solution as an ordered pair.

a. 
$$\left. \begin{array}{l} y = 3x - 2 \\ 2x + y = 8 \end{array} \right\}$$

b. 
$$\left. \begin{array}{l} x + 3y = 9 \\ 2x + y = -2 \end{array} \right\}$$

c. 
$$\left. \begin{array}{l} y = -\frac{2}{3}x + 1 \\ x + y = 2 \end{array} \right\}$$

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14. Solve these systems of equations by the substitution method.

a. 
$$\left. \begin{array}{l} x = 3y - 7 \\ 4x + 3y = 2 \end{array} \right\}$$

b. 
$$\left. \begin{array}{l} y = -3x - 7 \\ -4x - 2y = 12 \end{array} \right\}$$

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15. Solve these systems of equations using the Elimination by Addition method.

a. 
$$\left. \begin{array}{l} 2x + y = 5 \\ x + 3y = -10 \end{array} \right\}$$

b. 
$$\left. \begin{array}{l} 6x - y = -14 \\ 3x + 3y = 0 \end{array} \right\}$$

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