SEW
Summer 2017

Exam 1 Makeup

Name: _____

UIN: _____

Instructor:: _____

UIC email: _____

- You are expected to abide by the University's rules concerning Academic Honesty.
- You may *not* use your books, notes, or any electronic device including calculators and cell phones.
- Show ALL your work. Unsupported answers will not receive credit.
- Always state a complete answer to the problem.
- Do not write above the type at the top of any pages. If you do, your work may not be graded in that area, because the scanner may miss it.
- Please check that all the page numbers on each page of your exam match.

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(1) Solve for x.

$4x - 1 = -3(x - 9)$

$$\frac{x-1}{2} + \frac{5-x}{3} = 5$$

(2) Solve for L.

$2W + 2L = P$

(3) At a thrift store, all tops are the same price and all pants are the same price. Cora buys five tops and two pants for \$34. Her friend buys two tops and one pant for \$15. What is the price for a top? What is the price for a pant?

(4) Solve the following absolute value equation.
$|5x + 2| = 8$

(5) Solve the following inequality. Graph your solution and write it in interval notation.
$-2x + 34 \geq 4$

(6) Given the linear equation $y = \frac{1}{3}x - 2$, answer the following.

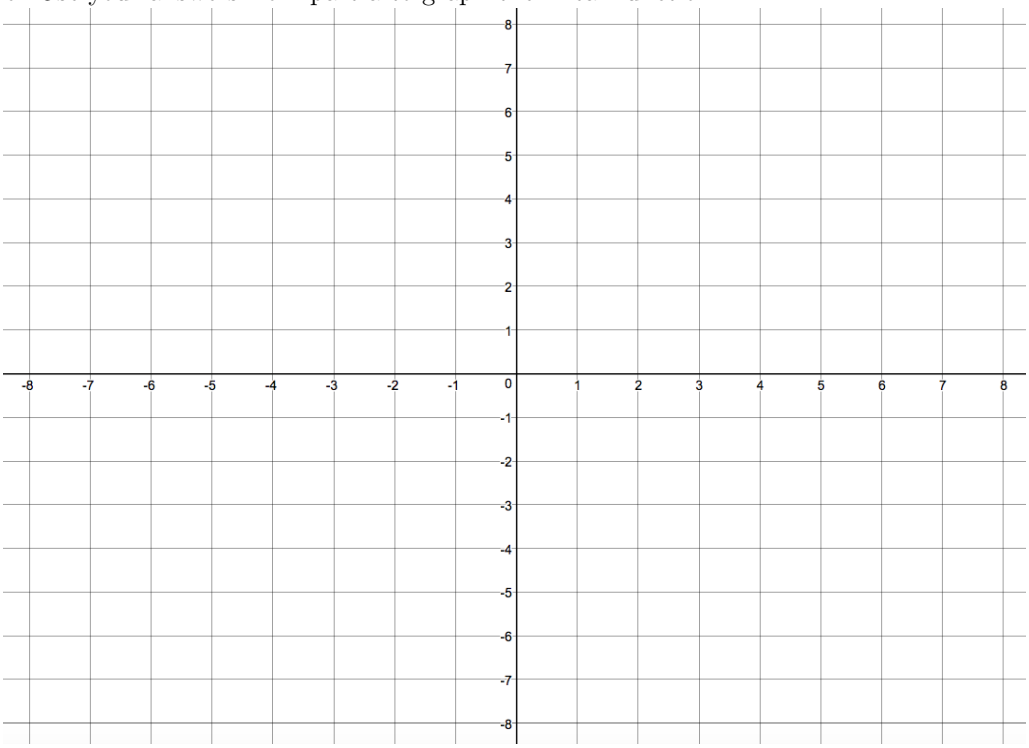
a. Find the slope, y-intercept, and x-intercept of the function.

slope:

y-intercept:

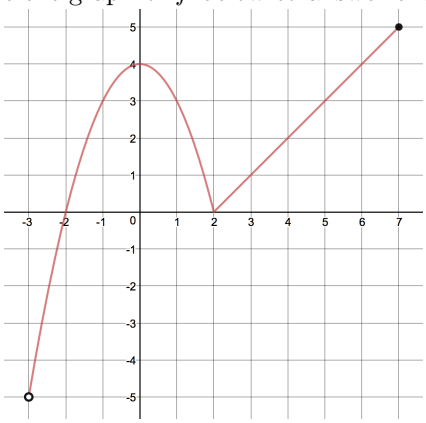
x-intercept:

b. Use your answers from part a to graph the linear function.



c. Find the equation of the line that is perpendicular to this line, $y = \frac{1}{3}x - 2$, and passes through the point $(1, 1)$.

(7) Use the graph of f below to answer the following.



a. State the domain of f.

b. State the range of f.

c. Find the following.

$f(-1)$

$f(3)$

d. For what value of x is $f(x) = 5$?

(8) Find the domain of the function.

$g(x) = \sqrt{2x+1}$

(9) Simplify the following as much as possible. Leave your answers with only positive exponents.

a. $\dfrac{3u^6p^5}{9u^7p}$

b. $3x^{-2}$

c. $\left(\dfrac{x^{-2}y^5}{w^3}\right)^2 (x^8y^3z^6)$

(10) Factor the following.

a. $xy + 5x + 4y + 20$

b. $2x^2y - 32y$

(11) Solve the following.

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

b. $2x^2 - 8 = 0$