$$P(East NCBBQ) = \frac{z^{-2}}{80^{-2}} = \frac{1}{40}$$

$$\frac{P(Burgers or Pasta)}{\frac{18+12}{80} = \frac{30 \div 10}{80 \div 10} = \frac{3}{8}}$$

$$P(\text{not steak})$$

$$\frac{80-22}{80} = \frac{58 \div 2}{80 \div 2} \left[\frac{29}{40} \right]$$

P(French Fries of ENCBBd)

$$\frac{26+2}{80} = \frac{28+4}{80+4} = \frac{7}{20}$$

P(French fries and then pasta with replacement

$$P(fries) = \frac{26 \div 2}{80 \div 2} = \frac{13}{40}$$

$$P(pasta) = \frac{12 \div 4}{80 \div 4} = \frac{3}{20} = \frac{39}{40}$$

P(ENCBBQ and then Steak)
without replacement

P(ENCBBQ) = \frac{2}{80} \frac{1}{40} \frac{22}{79} = \frac{11}{1580}

P(Steak W/o replacement) = \frac{22}{79}

Algebra 2 Chapter 1 Pre-Test

Each problem is worth 4 points. Please show all work in order to receive partial credit for incorrect responses.

1.) Find the opposite of each number.



- b) 1/3
- (c) -7 [7]
 - d) -0.6
- 2.) Find the reciprocal of each number.
 - a) 4 b) 5/7
 - c) -½
 - (d) -6
- 3.) Simplify.
 - (a) |7 10| |-3| = |3|
 - b) -|-8|
 - c) 0.3 |-4|
 - d) |11 18| | 7

4.) Determine whether each number is rational or irrational. In addition, name the set(s) of numbers to which each number belongs.



b) 0.567567567...



d) 0



- f) π
- g) $\sqrt{16}$

(n)
$$\sqrt{50}$$
 | reatinal - not perfect square

5.) Simplify by combining like terms.

b)
$$11x + 7y + 3x - 5y$$

6.) Simplify by combining like terms.

c)
$$a(a - c) + c(c - a)$$

d)
$$\frac{3(x+y)}{4} + \frac{9x}{2}$$
 Find common denominator denominator $\frac{3}{4} + \frac{18x}{4}$ $\frac{3}{4} + \frac{18x}{4}$ $\frac{1}{4} + \frac{18x}{4} + \frac{18x}{4} + \frac{2}{4} + \frac$

7.) Simplify the algebraic expression. Then evaluate.

$$7(g + h) - (g - h);$$
 $g = 4, h = -5$
 $7(4+(-5)) - (4-(-5))$
 $7(-1) - 9$
 $-7 - 9 = -16$

8.) Evaluate each expression for the given variable.

$$8r^2 + 4(r - s) - 3s$$
; $r = 3$, $s = -2$

9.) Evaluate each expression for the given variable.

$$-n(3m+2) - 2m^{2}; m = 3, n = 5$$

$$-5(3(3)+2) - 2(3)^{2}$$

$$-5(3(3)+2) - 2(9)$$

$$-5(9+2) - 2(9)$$

$$-5(11) - 2(9) = -55 - 18 = -73$$

10.) Evaluate each expression for the given value of the variable.

$$a^2 + b^2$$
; $a = -5$, $b = 6$

11.) Solve each equation for the given variable.

5t - 3f = 2t, for t
-2t -2t
3t - 3f = 0
+3f +5f

$$3t = 3f$$

 $3t = 3f$
 $t = f$

12.) Solve each equation for the given variable.

$$\frac{x+2y}{3}$$
 + 5y = 4x, for y

13.) Solve for a. Multiply by LCM

$$\frac{30}{3}a + \frac{15}{5}b = 60 - 15a$$

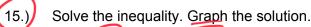
$$\frac{30}{3}a + \frac{15}{5}b = 60 - 15a$$

$$\frac{10a + 3b = 60 - 15a}{+15a}$$

$$\frac{25a = 60 - 3b}{25}$$
14.) Solve for x.

$$\frac{x + y}{z} = \frac{3}{7}$$

$$7(x+y) = 3z$$



$$-6(2 - b) + 3b \ge 0$$

$$-12 + 6b + 3b \ge 0$$

$$-12 + 9b \ge 0$$

$$+12$$

$$-12$$

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16.) Solve the compound inequality. Graph the solution.

$$3x \le 21 \text{ or } -9x < -72$$

Solve the inequality. Graph the solution.

$$\frac{2}{3}(-6x + 15) \ge 6$$

$$\frac{2}{3}(-6x) + \frac{2}{3}(\frac{15}{7})$$

$$-\frac{12x}{3} + \frac{30}{3} \ge 6$$

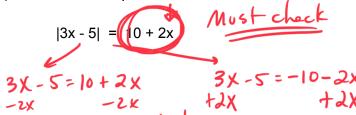
$$\frac{12x}{3} + \frac{30}{3} = \frac{30}{3} = \frac{30}{3}$$

$$\frac{12x}{3} + \frac{30}{3} = \frac{30}{3}$$

Solve each equation. Check for extraneous solutions

$$|x + 4| = 9$$

19.) Solve each equation. Check for extraneous solutions



$$X-5=10$$

$$10+2(15)$$

$$X=15$$

$$10+2(15)$$

$$5X=-5$$

$$10+2(15)$$

$$5X=-5$$

$$10+2(15)$$
Solve each equation. Check for extraneous solutions

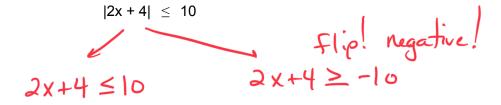
olve each equation. Check for extraneous solutions |x - 3| + 12 = 7 -|2 - 12i so late absolute value first!

21.) Solve each equation. Check for extraneous solutions

$$|4x - 12| = 8x$$

20.)

22.) Solve and graph the inequality.



23.) Solve and graph the inequality.

$$|x - 9| - 7 \le -4$$

- 24.) What is the probability of each using standard die
 - a) Rolling an even number
 - b) Rolling a 3 or 4
 - c) Rolling a 7
- 25.) Since 1996, there have been 24 Super Bowls. Of these, the New England Patriots have represented the AFC 10 times, the Denver Broncos 4 times, and the Pittsburgh Steelers 4 times. Use this information to answer the following:
 - a) What is the probability the New England Patriots would represent the AFC during this time?
 - b) What is the probability that the Denver Broncos or Pittsburgh Steelers would represent the AFC during this time?
 - c) What is the probability that another team other than the New England Patriots, Denver Broncos or Pittsburgh Steelers would represent the AFC during this time?
 - d) What is the probability that Pittsburgh was not a representative during this time?