Warm Up 3/20/19

1. Write the equation of the line that passes through (-5, 7) and (3, 23)

$m = \frac{23-7}{3+5} = \frac{16}{8} = 2$

$y - y_1 = m(x - x_1)$

$y - 7 = 2(x + 5)$

$y - 7 = 2x + 10$

$+7 \quad +7$

$y = 2x + 17$

2. Solve for k: $-4g - 8k = 24$

$+4g \quad +4g$

$-8k = 4g + 24$

$\frac{-8k}{-8} = \frac{4g}{-8} + \frac{24}{-8}$

$k = \frac{-1}{2}g - 3$

3. Solve: $y = 2x$

$5x - y = 9$

$5x - 2x = 9$

$y = 2(3)$

$y = 6$

$\frac{3x}{3} = \frac{9}{3}$

$x = 3$

(3, 6)

**1.** Suppose you buy flour and cornmeal in bulk to make flour tortillas and corn tortillas. Flour costs $1.50 per pound and cornmeal costs $2.50 per pound. You want to spend less than $25 on flour and cornmeal, but you need at least 6 pounds altogether.

c → y  f → x

**a.** Write and graph a system of linear inequalities:

$f + c \geq 6$

$1.50f + 2.50c < 25$

$\frac{2.50c}{2.50} < \frac{-1.50f}{2.50} + \frac{25}{2.5}$

$c < -\frac{3}{5}f + 10$

$c \geq -f + 6$


**b.** Write two possible solutions:

i. 7 lbs flour, 2 lbs cor.

ii. 3 lbs flour, 7 lbs cornml.

**2.** A seafood restaurant owner orders perch and salmon. Perch is $4/lb and salmon is $3/lb. He wants to buy at least 50 pounds of fish but cannot spend more than $240.

x y x 4 y 3 0

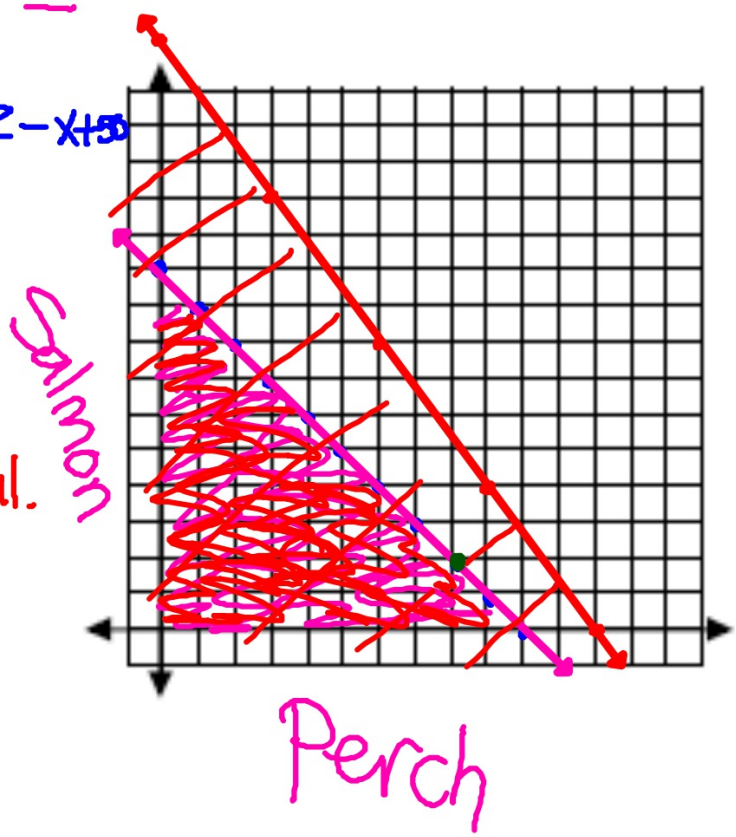
≥ ≤

**a.** Write and graph a system of linear inequalities:

$x + y \geq 50$ $y \geq -x + 50$

$4x + 3y \leq 240$

$y \leq -\frac{4}{3}x + 80$




**b.** Write two possible solutions:

i. 4 lbs perch, 2 lbs Sal.

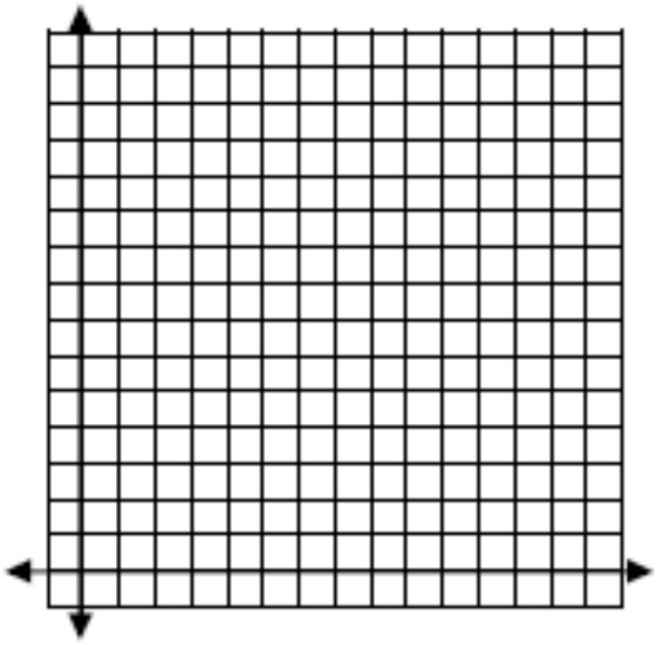
ii. 8 lbs perch, 2 lbs Sal

**3.** The "We Sell CDs" website plans to purchase ads in a local newspaper to advertise their site. Their operating budget will allow them to spend at most $3000 on this advertising adventure. An ad will cost $30 to appear in the weekday paper and $50 to appear in the weekend edition. They plan to run at least 20 ads.

**a.** Write and graph a system of linear inequalities:

_____

_____



**b.** Write two possible solutions:

i. _____

ii. _____

**4.** Mary knits scarves and sweaters to sell. Scarves take 2 hours to knit and sweaters take 10 hours. Mary would like to spend no more than 40 hours per week knitting and knit at least 5 items per week.

**a.** Write and graph a system of linear inequalities:

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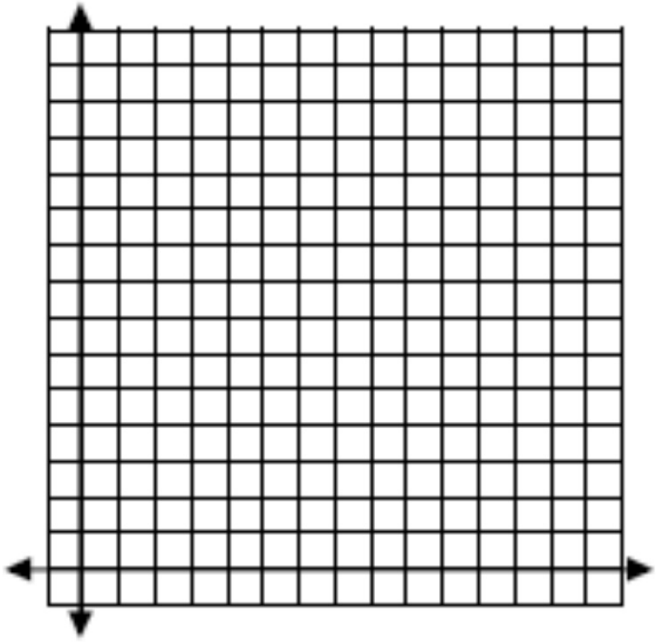
_____



**b.** Write two possible solutions:

i. _____

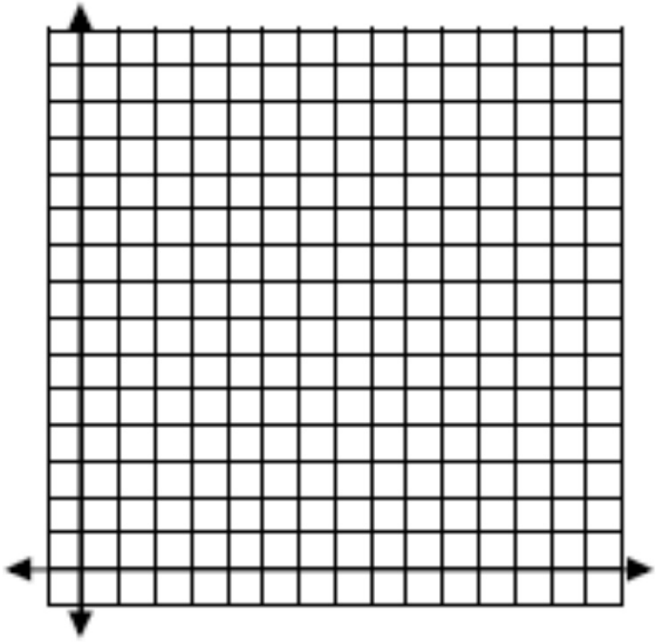
ii. _____

**5.** A clothing store has a going-out-of business sale. They are selling pants for $8.99 and shirts for $3.99. You can spend as much as $60 and want to buy at least two pairs of pants.

**a.** Write and graph a system of linear inequalities:

_____

_____



**b.** Write two possible solutions:

i. _____

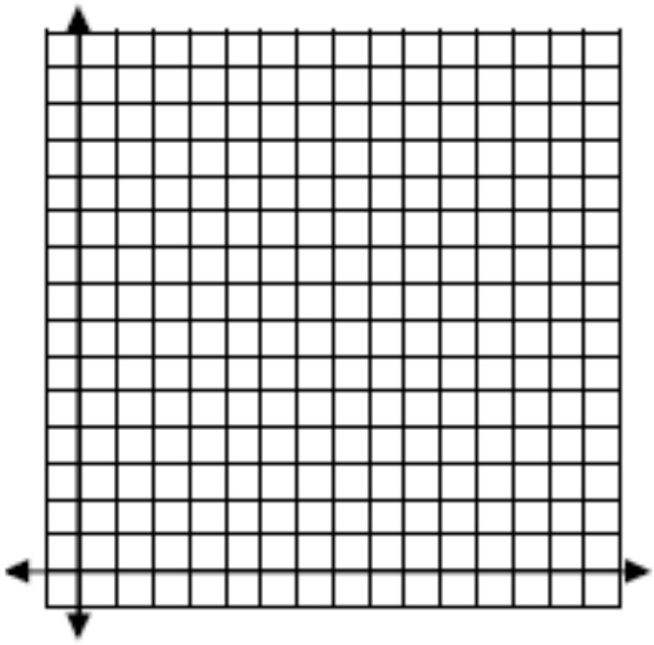
ii. _____

**6.** You'd like to see how many baseball and soccer games you can attend this spring. Travel time for baseball games is 2 hours and soccer games is 1 hour. You would like to spend no more than 15 hours traveling to the games. In total, you would like to attend at least 8 games.

**a.** Write and graph a system of linear inequalities:

_____

_____



**b.** Write two possible solutions:

i. _____

ii. _____

**c.** Suppose we decide on attending 4 baseball games, what is the range of soccer games you can attend?

**d.** Suppose we decide on attending 9 soccer games, what is the range of baseball games you can attend?

**e.** Is it possible to attend 6 baseball games and 4 soccer games?