Math Homework Week: 13 Nov 5-9, 2018 Name _____

Monday

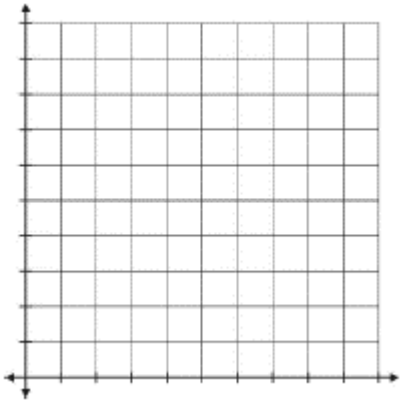
Kayla and Cason are performing a duet. They are selling tickets for their show which will be in a 2500 seat arena. Ticket prices are $25 the lower seats and $15 for the balcony. At least 1000 tickets must be priced at $15 and the total sales need to exceed $10,000 to make a profit. Let x represent the number of tickets priced at $25 and let y represent the number of $15 tickets. **Write a system of inequalities for the situation**. *Hint: There are 3 inequalities: Seats, profit, and constraints on cheaper seats*

Emily and Brinae take a fishing trip to Alaska to fish for trout and salmon. They caught no more than 15 fish in all. Due to fishing regulations, the most salmon allowed per fishing trip is 10 and the most trout is also 10. Write three inequalities to model this situations.

If they caught 10 trout, what are the possibilities for the number of salmon they caught?

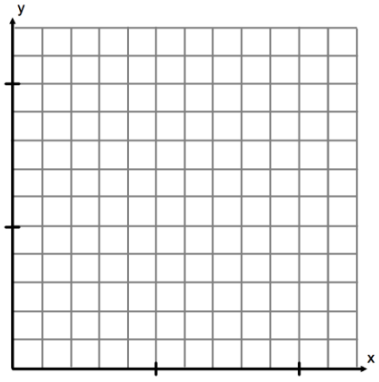
Could they have caught 8 of each type of fish? Explain.

Graph the system of linear inequalities above (go by twos)

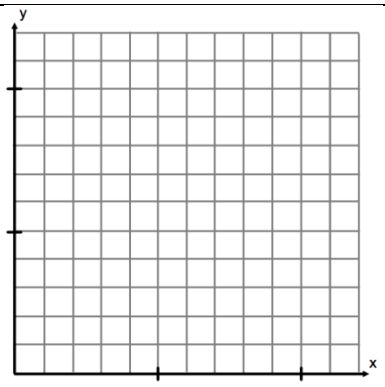


Tuesday

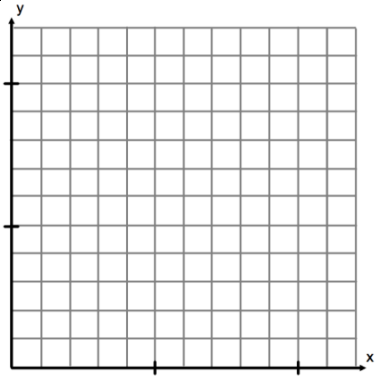
Heather trains dogs for $10 per hour and babysits for $12 per hour. She is only allowed to work at most 11 hours per week, but wants to make at least $80. Graph this situation to show how many hours of each job she can work.



Leah is making fruit salad. Apples cost $1.50 per pound and oranges cost $1 per pound. Leah has at most $24 to spend on apples and oranges. How many pounds of each type can she buy?



Ruthie wants to create a rectangular pen for her hogs. The fence should be at least 60 feet long and the distance around it should be no more than 220 feet. What are the possible dimensions? (Graph should go by 10s)



For the problem on the left, what is the largest width Ruthie can have for her hog pen?

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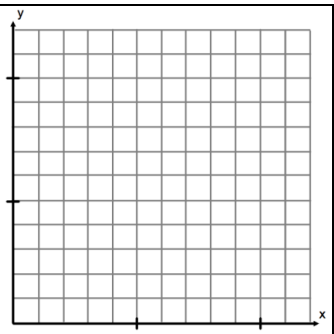
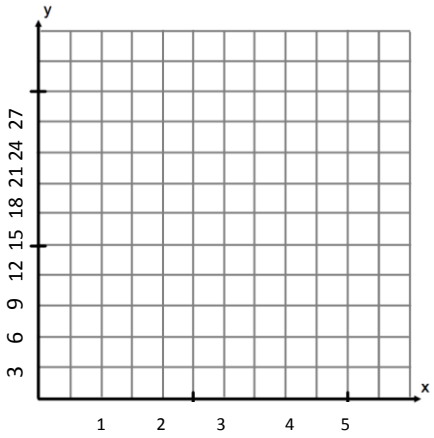
Wednesday

Kade's mom pays him $6 per hour to work in the yard and $4 per hour to clean the house. Kade wants to earn $60, but does not want to work any more than 12 hours. What are the possible combinations of hours that Kade could work his various chores?



Derrick is helping his mom buy soil and plants for her small garden. Soil costs $3 per bag and the plants cost $12 each. Derrick can spend no more than $120, and Derrick's mom wants to plant at least 5 plants in the garden. Write a system of inequalities to model this situation.

Tony is currently looking to buy audio books and songs for his iPod. Tony wants at least 1, but no more than 4 audio books on his iPod. He also wants more than 10 songs. Each audio book costs $14.00 and each song costs
$2. Tony has $56 to spend on books and music. What are the possible combinations of audio books (x) and songs (y) Tony can buy?



Thursday

Gwen makes scarfs to sell at a craft fair. It takes 5 hours to make a short scarf and 8 hours to make a long scarf. She has no more than 80 hours available to make scarfs and wants to have at least 6 large scarves to sell. Gwen will make a profit of $15 for a short scarf and $25 for a long scarf. How many of each size should be made to maximize profit?
Write the inequality constraints for this situation. It is assumed that $x \geq 0$ and $y \geq 0$.

Constraint #1 (time): _____ Constraint #2: (long scarves) _____

Profit Equation: P = _____