DO NOW

The Hobby Lobby sells radio-controlled helicopters and boats. The store makes a profit of $35 on each helicopter ($h$) and $32 on each boat ($b$). The store hopes to make a profit of at least $600 during the holiday season from its sales of helicopters and boats. Which inequality represents this situation?

(1) $35h + 32b \geq 600$
(2) $35h + 32b \leq 600$
(3) $35h + 32b > 600$
(4) $35h + 32b < 600$

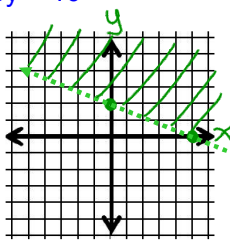
Dec 5-10:03 AM

Graphing Real World Inequalities

If your equation is written in Ax + By = C form, use x- and y-intercepts to graph the line!

Graph: $2x + 5y > 10$

x-int (y=0)
$2x+5y=10$
$2x+5(0)=10$
$\frac{2x}{2}=\frac{10}{2}$
$x=5$ (5,0)



y-int (x=0)
$2x+5y=10$
$2(0)+5y=10$
$\frac{5y}{5}=\frac{10}{5}$
$y=2$
(0,2)

Dec 5-8:42 AM

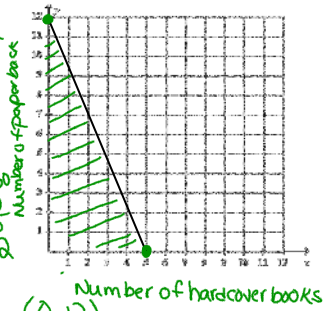
Suppose you intend to spend no more than $60 buying books. Hardcover books cost $12 and paperback cost $5. List two possible combinations of types of books you can buy.

Let: x = hardcover
y = paper back

$12x+5y \leq 60$

x-int
$12x+5y=60$
$\frac{12x}{12}=\frac{60}{12}$
$x=5$

y-int
$12x+5y=60$
$\frac{5y}{5}=\frac{60}{5}$
$y=12$



(2,5) (1,1) (0,12)
(0,0) (5,0) (1,3)

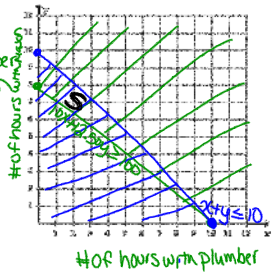
Dec 5-8:46 AM

Kyle works part-time for a local contractor. He makes $10 an hour if he works with the plumber, and $12.50 an hour if he works with the mason. Kyle cannot work more than 10 hours per week. Graph the two inequalities that represent how many hours Kyle needs to work at each job if he plans to earn at least $100 per week. Label the solution set with the letter **S** and state one solution that would work.

Let:
x = # of hours plumber
y = # of hours mason

$10x+12.50y \geq 100$
x-int: (10,0)
y-int: (0,8)

$x+y \leq 10$
x-int: (0,0)
y-int: (0,10)



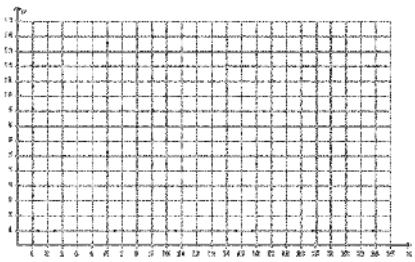
(3,6) → 3 hours with plumber
6 hours with mason

Dec 5-9:19 AM

Miss Jones wants to buy at least 10 books. Each paperback book costs an average of $10 and each hardcover book costs an average of $20. Miss Jones is planning to spend less than $240 on books.

a) Write and graph a system of inequalities to model the number of books she can purchase to stay under budget. Be sure to label all parts of your graph

b) State one solution that would work. How much did she spend on hardcover books?

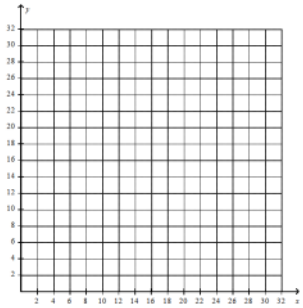


Dec 5-8:49 AM

The science club wants to buy t-shirts for the organization. They have a budget of $120. Plain white t-shirts cost $3 and red t-shirts with writing costs $6. There are 20 students in the club but all are not sure if they are going to purchase a t-shirt.

a) Write and graph a system of inequalities to model the number of t-shirts the club can purchase to stay under budget.

b) State one solution that would work. How many more white t-shirts could they buy? Explain.



Dec 5-9:15 AM