Ch 7.5 Graphing Linear Inequalities

Name the 3 methods to graph a line:

1.

2.

3.

May 19-12:55 PM

What do you do for vertical and horizontal lines?

May 19-12:56 PM

Graphing Inequalities:

<* or *>*:** ***Dotted/Dashed line because points on the line are NOT solutions.

≤ or ≥: Solid line because points on the line ARE solutions.

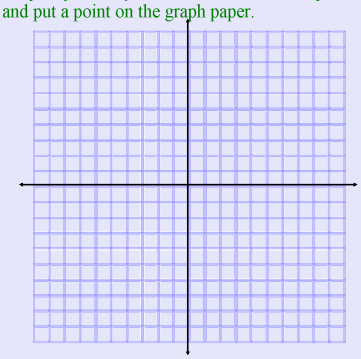
Symbol can determine ***shading*** if in ***y = mx + b*** or if ***y*** value is ***positive.***

< or ≤ : Shade below the line

> or >: ***Shade above*** the line

Feb 4-1:33 PM

Ex1) Pick a point and see if it works in the ineqaulity: $2x - 3y > -2$ If it works, come up and put a point on the graph paper.



To be a solution to an inequality you must have what conditions:

1.
2.

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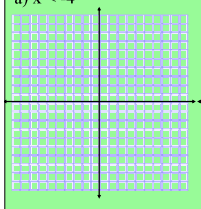
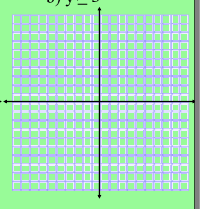
Ex2) Graph inequalities with one variable:

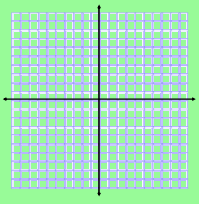
a) $x < -4$



b) $y \geq 3$



Try: $x > 3$



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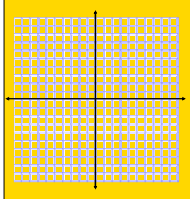
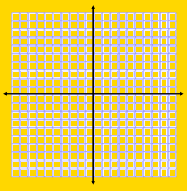
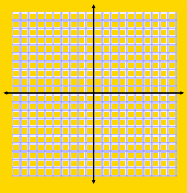
Ex3a) $x - y \leq 2$



Ex3b) $2x + 5y > 10$



Ex3c) $y < -\frac{1}{2}x + 4$



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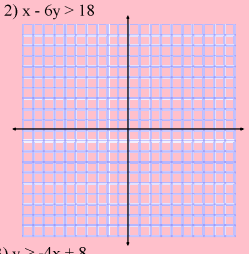
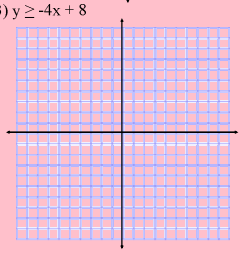
Try 2) x - 6y > 18



Try 3) y ≥ -4x + 8



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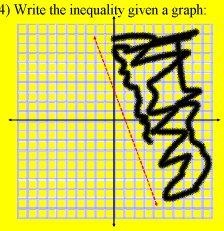
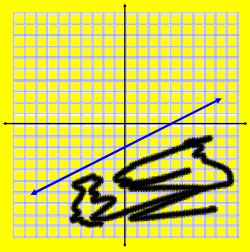
Ex4) Write the inequality given a graph:

a)



b)



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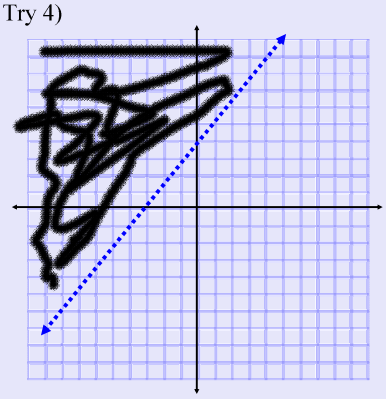
Try 4)



Feb 5-8:19 AM

Ex5) ***Applications***:

2 formats 1. ***mx + b = y***

m = rate, b = flat amount

2. ***Ax + By = C***

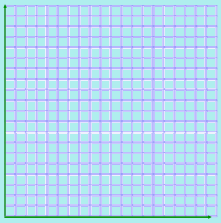
A and B are 2 rates, C = total

With 2 minutes left in a basketball game, your team is 12 points behind. What are 2 different numbers of ***2-point*** and ***3-point shots*** your team could score to earn ***at least 12 points***?

Write and inequality:

x = # 2 points, y = # 3 points

#3 point shots

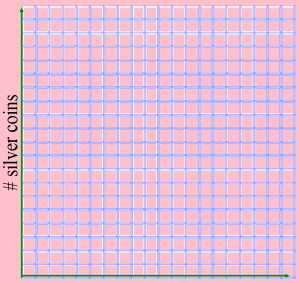


#2 point shots

Feb 5-8:21 AM

Try 5) You are treasure diving for gold and silver coins. Objects collected are placed in a wire basket. One of divers signals to reel in the basket. It feels as if it contains ***no more than 50 pounds.*** If each ***gold coin weighs 1/2 ounce*** and each ***silver coin weighs 1/4 ounces,*** how many different amounts of coins could be in the basket?

silver coins



gold coins

Feb 5-8:30 AM