

1) Graph

2) Dotted/solid line

3) Test point for solutions
↓
shading

2.8 Graphing Linear and Absolute Value Inequalities

Honors Algebra 2

1. Graph the following functions

a. $x + 4y > 2$

b. $y - 2x > 8$

c. $12x - 8y \leq 24$

x & y-intercepts

OR $4y > -x + 2$

$y > 2x + 8$

$x = 0$

$-8y = 24$

$y = -3$

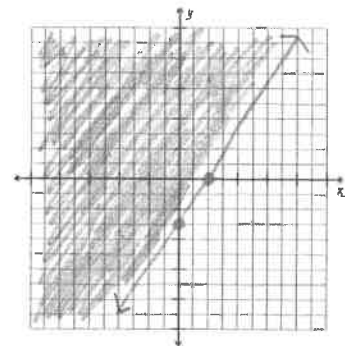
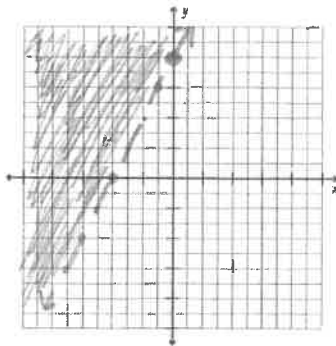
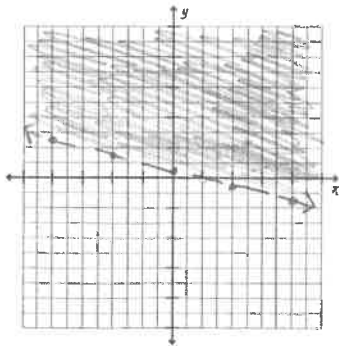
$y = 0$

$12x = 24$

$x = 2$

$x = 0$
 $4y = 2$
 $y = 1/2$

$y > -\frac{1}{4}x + \frac{1}{2}$

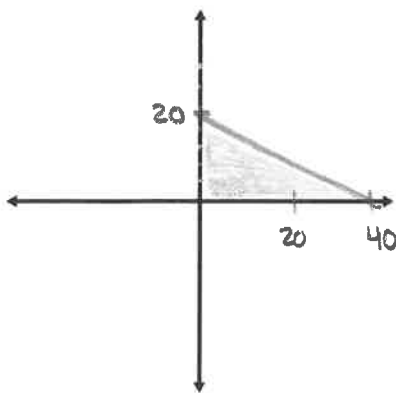


*dotted line b/c
not =

*closed line

2. A recreation center offers various 30-minute and 60-minute art classes. The recreation director has allotted up to 20 hours per week for art classes.

a. Write an inequality to represent the number of classes that can be offered per week. Graph the inequality.



30 minute = x 60 minute = y

$\frac{1}{2}x + y \leq 20$

$y \leq \frac{1}{2}x + 20$

$y = 0$
 $x = 40$

$x = 0$
 $y = 20$

b. Can the recreation director schedule 25 of the 30-minute classes and 15 of the 60-minute classes during a given week?

(25, 15) a pt in shaded region?

$\frac{1}{2}(25) + 15 \stackrel{?}{\leq} 20$

$12.5 + 15 \stackrel{?}{\leq} 20$

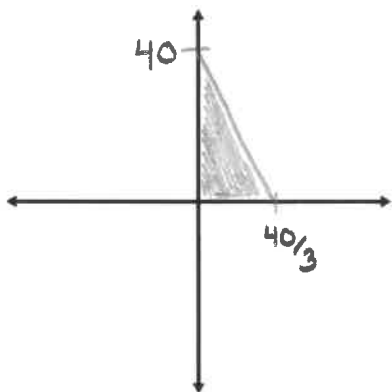
$27.5 \not\leq 20$

No cannot schedule

25 of the 30-min
and 15 of the 60-min

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Honors Algebra 2

3. Manuel has \$15 to spend at the county fair. The fair costs \$5 for admission, \$0.75 for each ride ticket, and \$0.25 for each game ticket. Write an inequality, and draw a graph that represents the number of r ride and g game tickets that Manuel can buy.



ride = x

game = y

$$15 \geq 5 + 0.75x + 0.25y$$

$$10 \geq \frac{3}{4}x + \frac{1}{4}y$$

$$40 \geq 3x + y$$

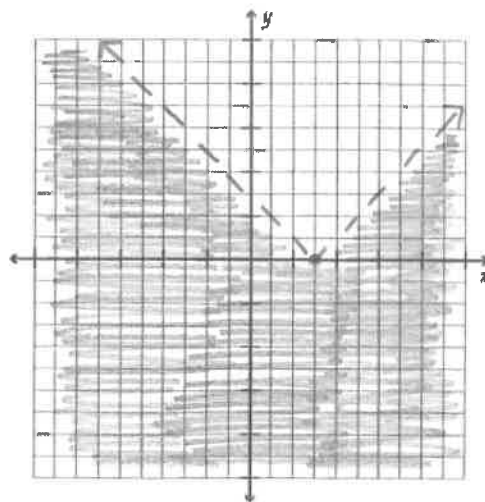
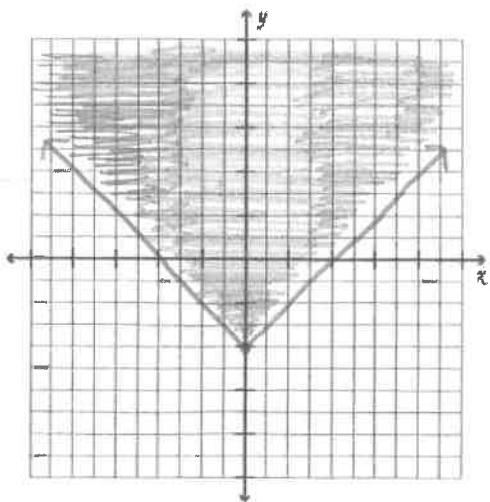
$y = 0$ $x = 40/3$

$x = 0$ $y = 40$

4. Graph the following:

a. $y \geq |x| - 4$

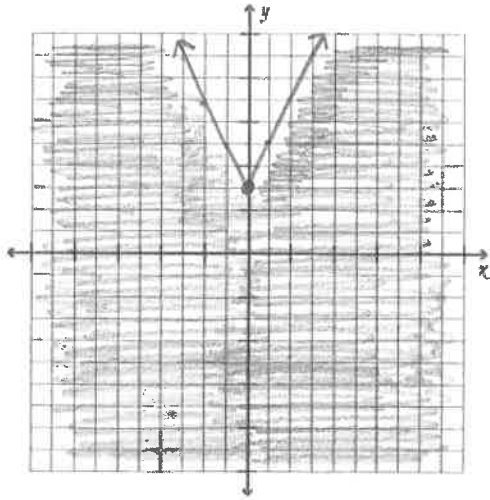
b. $y < |x - 3|$



- 1) Graph
- 2) dotted / solid
- 3) test pt

2.8 Graphing Linear and Absolute Value Inequalities
Honors Algebra 2

a. $y \leq 2|x| + 3$



b. $y \geq 3|x + 1|$

