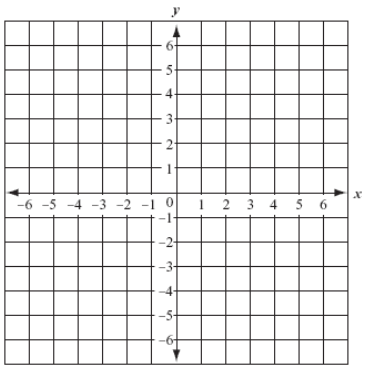
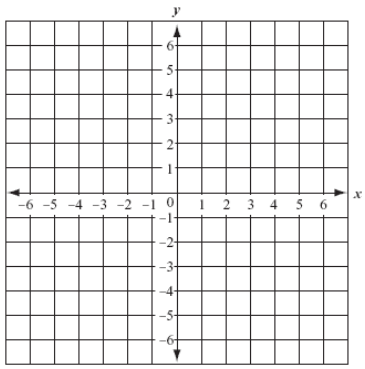
Warm-up Activity

Sketch the graph of a function that has the following domain and range values. You can only use 1 function per family.

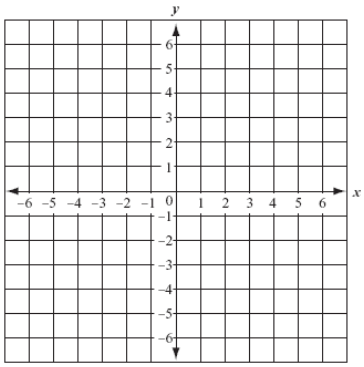
1. d: all reals
   r: all reals



2. d: all reals
   r: y < 3



3. d: all reals
   r: all even integers



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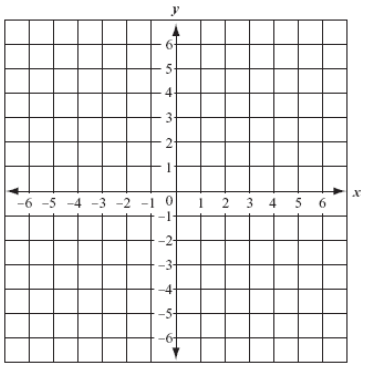
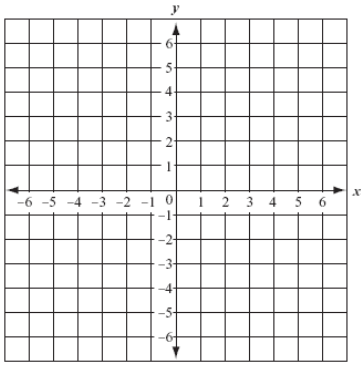
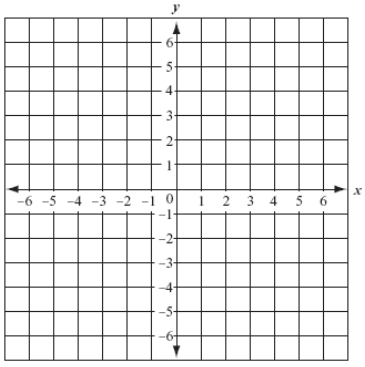
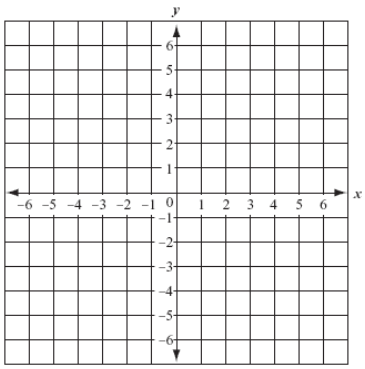
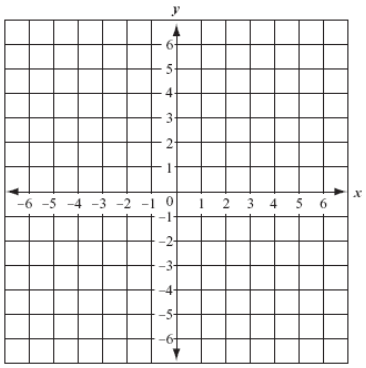
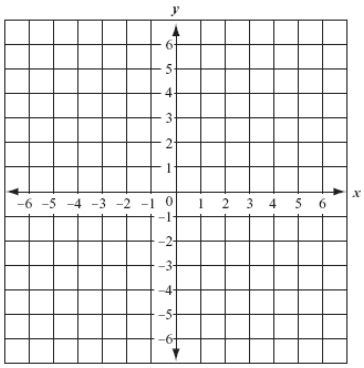






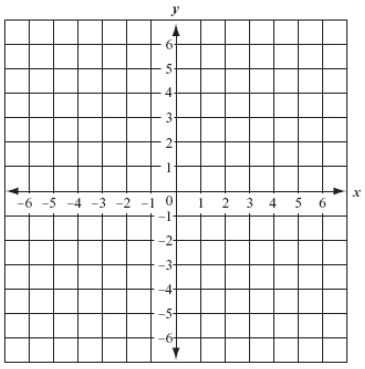
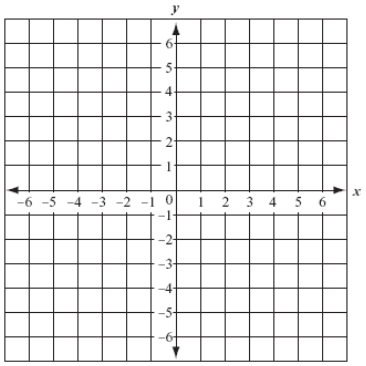
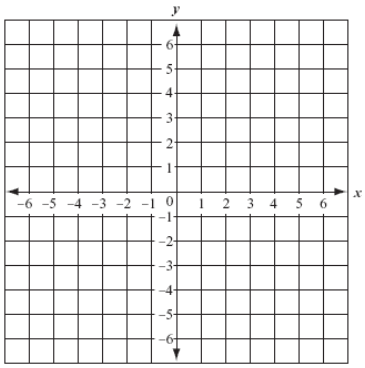
Sketch the graph of a function that has the following domain and range values. You can only use 1 function per family.

2. d: all reals
   r: $y < 3$

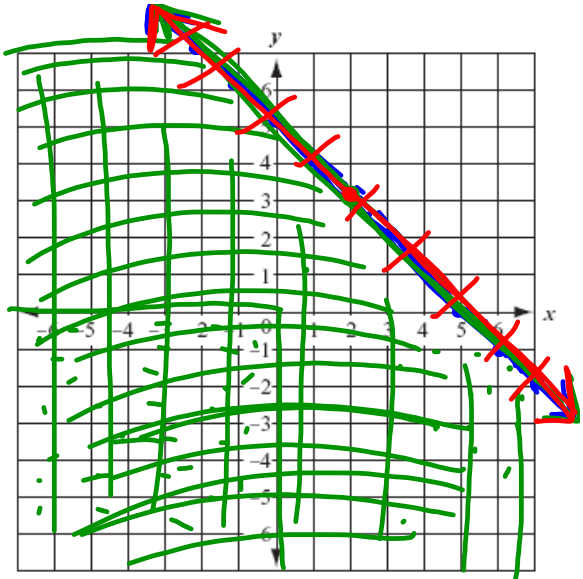




Sketch the graph of a function that has the following domain and range values. You can only use 1 function per family.

3. d: all reals
   r: all even integers

Name solutions to the line $x + y = 5$



$5 \stackrel{?}{=} 5$

$5 < 5$ false

2-8 Graphing Inequalities

- *graph a linear inequality on the coordinate plane*
- *graph an absolute value inequality on the coordinate plane*

$y < \frac{2}{3}x - 7$

$y = \frac{2}{3}x - 7$

To Graph Inequalities:

- graph the related equation as usual *(boundary)*
  - if < or >, then values on the boundary **ARE NOT** included; therefore the boundary will be **broken**.
  - if ≤ or ≥ then values on the boundary **ARE** included; therefore the boundary will be **solid**.
- shading represents all the ordered pairs that satisfy the inequality.
  - pick a point **NOT** on the boundary to determine shading, always shade **TRUE**.

Examples: ***Graph the following inequalities.***

1. $y > x - 1$

broken

$y = x - 1$

$m = 1$

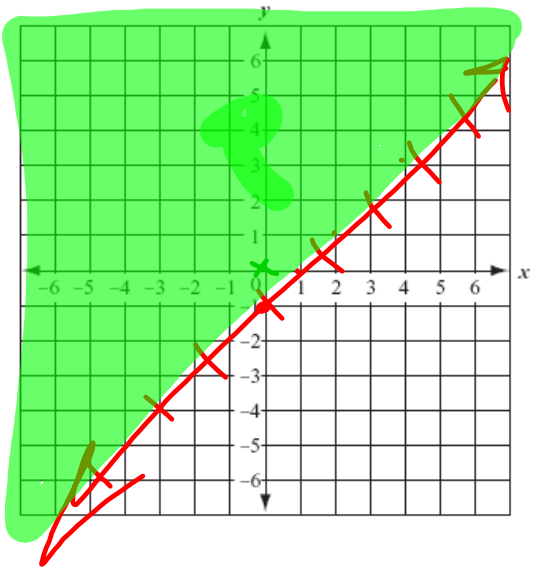
y-int: -1

✓ $(0,0)$

$y > x - 1$

$0 \stackrel{?}{>} -1$

true



Examples: ***Graph the following inequalities.***

2. $3y - 2x \leq 6$

solid

$3y - 2x = 6$

x-int: -3 $(-3,0)$

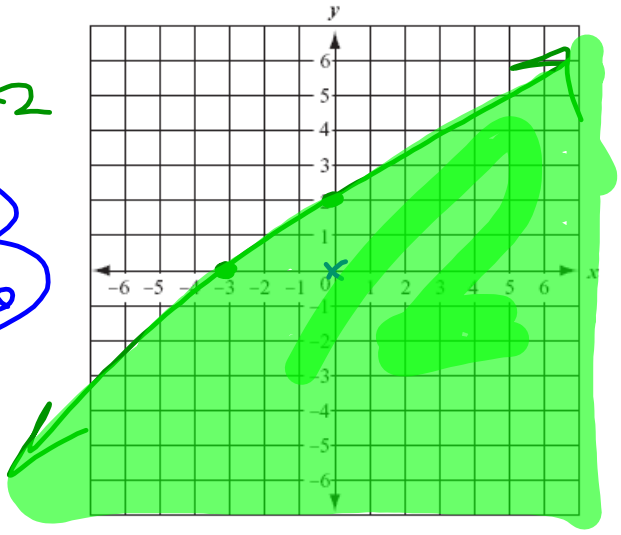
y-int: 2 $(0,2)$

$y = \frac{2}{3}x + 2$

✓ $(0,0)$

$0 \leq 6$

true



Examples: ***Graph the following inequalities.***

3. $-3x > 12$

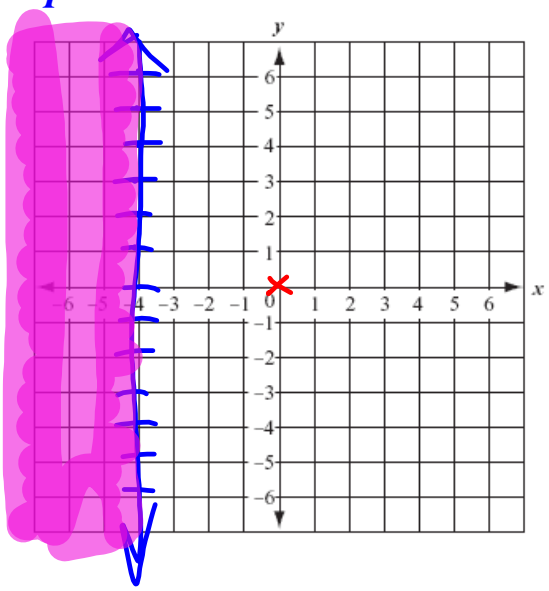
(0,0)

$0 \stackrel{?}{>} 12$ false

$-3x = 12$

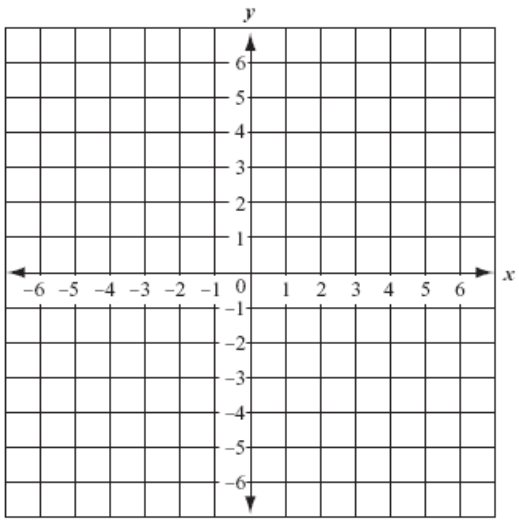
$x = -4$

x	y
-4	1
-4	2
-4	3



Examples: ***Graph the following inequalities.***

4. $y < 2|x + 1|$



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13 - 29 odd

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