Name:_____   Date:_____

Notes
Algebra Section 4.3
Pages 225-232

Goal: "Identify x and y intercepts"

Vocabulary

x intercept: The ___ _____ of a point where the _____ crosses the ___ _____.

y intercept: The ___ _____ of a point where the _____ crosses the ___ _____.
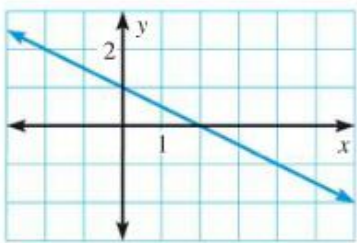
Finding the x and y intercepts on a graph.

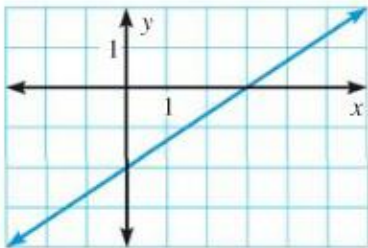Example: x intercept:

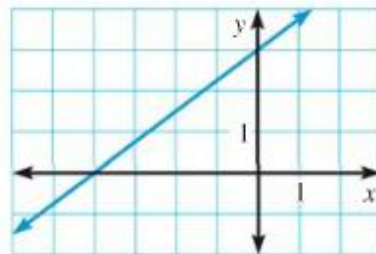 y intercept:

Try These:

1)   2)

Finding the x intercept: **Finding the y intercept:**

$7y + x = 14$ $7y + x = 14$

Plug 0 in for y. $y=0$ Plug 0 in for x. $x=0$

Coordinate: (,0)   Coordinate: (0,   )

Using intercepts to graph an equation:

Example: Graph the equation $y = 4x - 4$

Step 1: Find the intercepts

x intercept: *y* intercept:
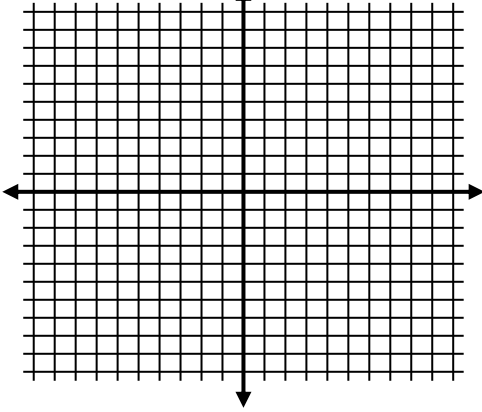

Coordinate: Coordinate:

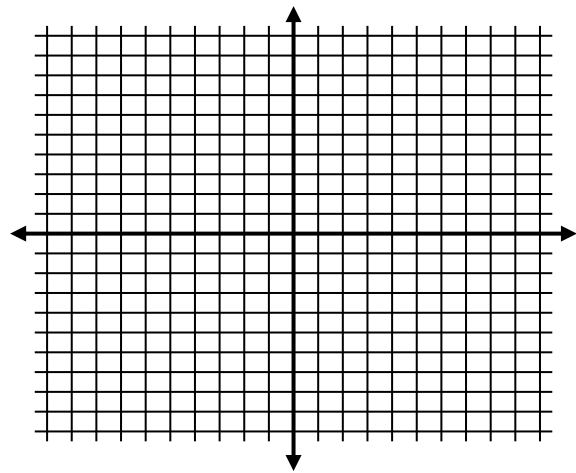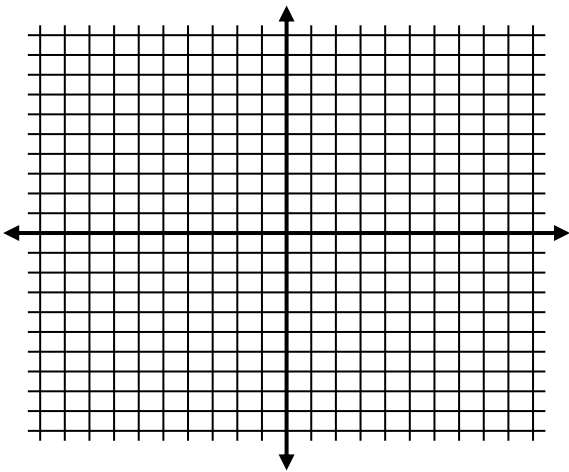Step 2: plot the points and draw a line through the points

x-intercept: _____

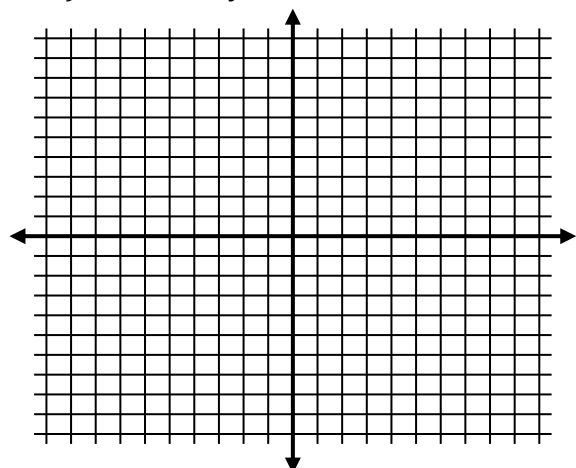y-intercept: _____

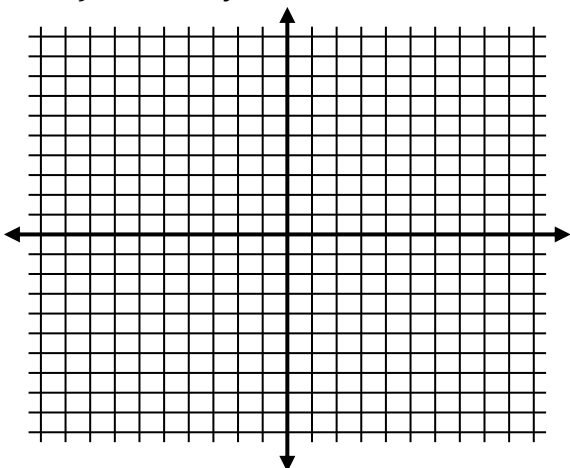Graph these using *x* and *y* intercepts:

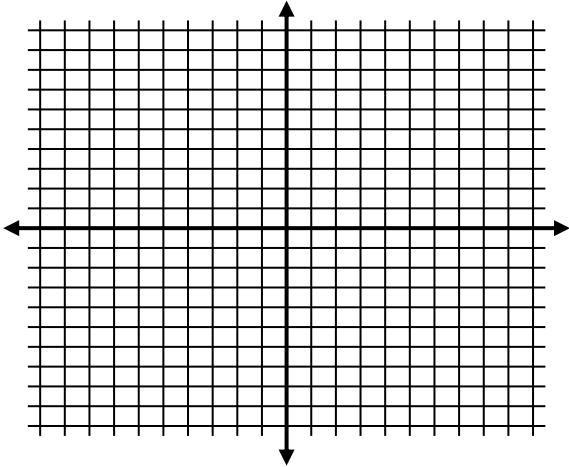1) $2x + 4 = y$

2) $3x + 2y = 6$
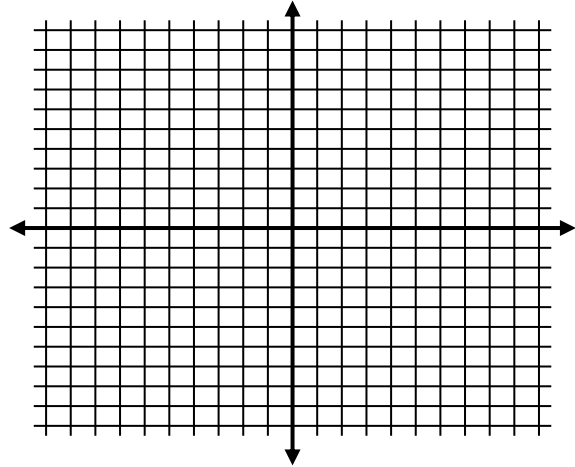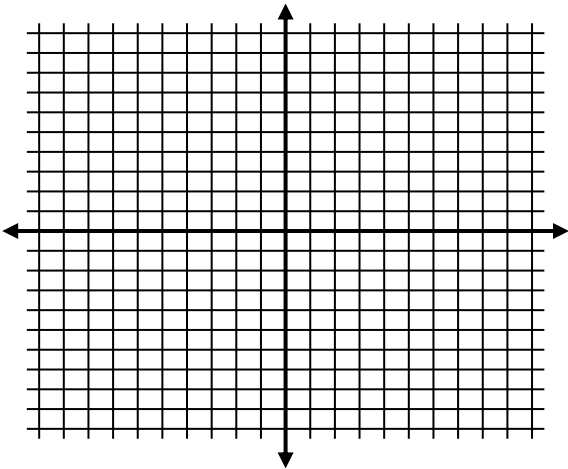
3) $4x - 8 = y$
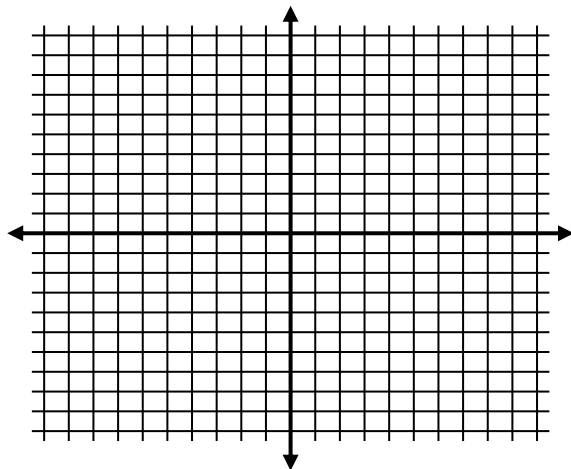
4) $-3x + 6 = y$

5) $x + 3 = y$

6) $4x - 8 = y$

7) $y = x - 4$

8) $y = 2x + 6$

Word Problems:

1) You are helping plan an awards banquet for your school and you need to rent tables to seat 180 people. Tables come in two sizes. Small tables seat 4 people and large tables seat 6 people.

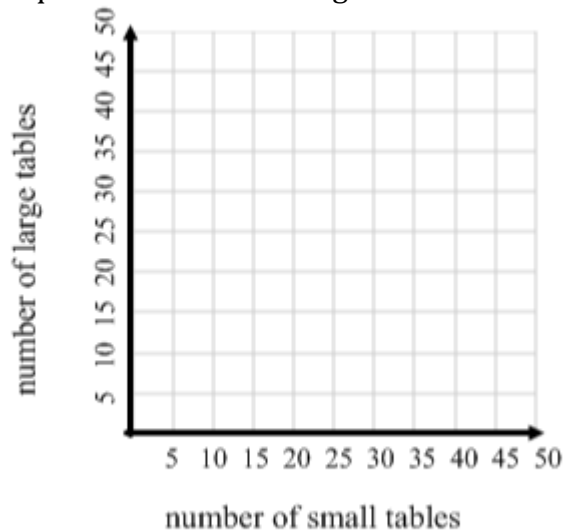   a) Let x equal the number of small tables and y equal the number of large tables. Write an equation to represent the situation.

   b) Graph the equation.
      x-intercept: _____

      y-intercept: _____

   c) Give 4 possible combinations of small and large tables you could use.

number of large tables

5 10 15 20 25 30 35 40 45 50

5 10 15 20 25 30 35 40 45 50

number of small tables

2) You make and sell decorative bows. You sell small bows for $3 and large bows for $5. You want to earn $60.

Write an equation to represent the situation.

Graph your equation.

      x-intercept: _____

      y-intercept: _____

Give two possible combinations of small and large bows you could sell.

number of large bows

2 4 6 8 10 12 14 16 18 20

number of small bows

3) You are making a necklace with red beads and blue beads. Each red bead costs $2 and each blue bead costs $3. You have a total of $72 dollars to spend.

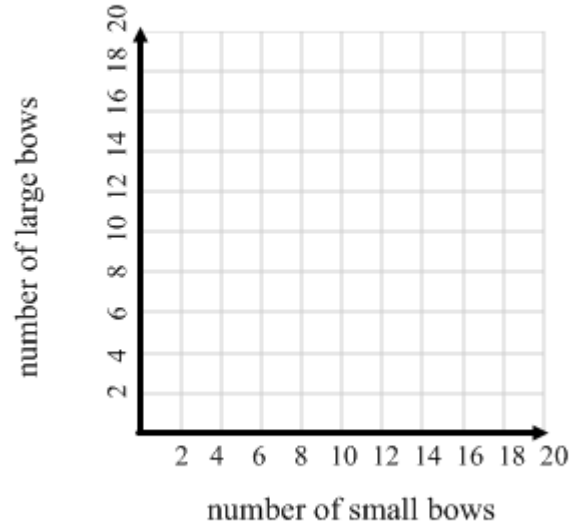x is the number of _____
y is the number of _____

Write an equation to represent the situation.

Graph your equation.

      x-intercept: _____

      y-intercept: _____

Give two possible combinations of red beads and blue beads you can buy to make your necklace.

Red Beads

Blue Beads