Alg 1 Warm Up Friday Week 2

1. Suppose *a* and *b* are integers. Describe what values of *a* and *b* make the statement true.

   a. Quotient $\frac{a}{b}$ is positive.

   b. Quotient $\frac{a}{b}$ is negative.

   c. Quotient $\frac{a}{b}$ is equal to 0.

   d. Quotient $\frac{a}{b}$ is undefined.

2. Do you think a negative number raised to an even power will be positive or negative? Explain.

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Problem 2 **Using a Table, an Equation, and a Graph**

Ages **Both Carrie and her sister Kim were born on October 25, but Kim was born 2 years before Carrie. How can you represent the relationship between Carrie's age and Kim's age in different ways?**

Know
Kim was born 2 years before Carrie.

Need
Different ways to represent the relationship

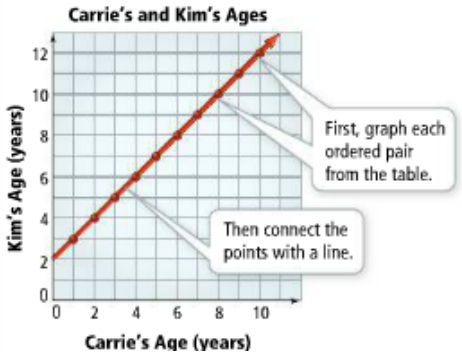
Plan
Use a table, an equation, and a graph.

Step 1 Make a table.

Carrie's and Kim's Ages (years)										
Carrie's Age	1	2	3	4	5	6	7	8	9	10
Kim's Age	3	4	5	6	7	8	9	10	11	12

Step 2 Write an equation.
Let x = Carrie's age. Let y = Kim's age. From the table, you can see that y is always 2 greater than x.
So $y = x + 2$.

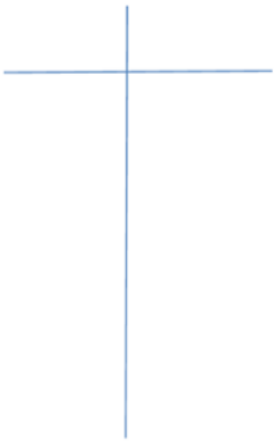
Step 3 Draw a graph.

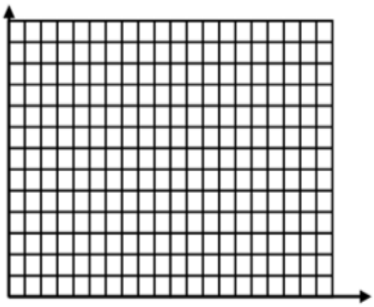


b. Reasoning Describe how the graph in Problem 2 above would change if the difference in ages were 5 years instead of 2 years.

Got It? **2. a.** Will runs 6 laps before Megan joins him at the track. They then run together at the same pace. How can you represent the relationship between the number of laps Will runs and the number of laps Megan runs in different ways? Use a table, an equation, and a graph.

Make a table: Write an equation: Draw a graph:





Got It? **1.** Is the ordered pair a solution of the equation $y = 4x$?

a. $(5, 20)$ **c.** $(-20, -5)$

Got It?

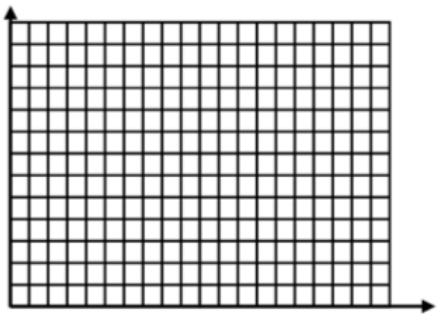
Use a table, an equation, and a graph to represent the relationship:

Ty is 3 years younger than Bea.

Make a table:

Write an equation:

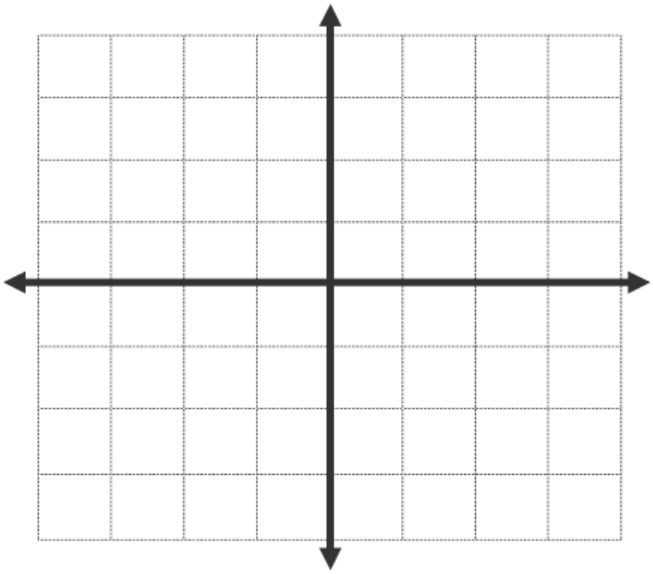
Draw a graph:



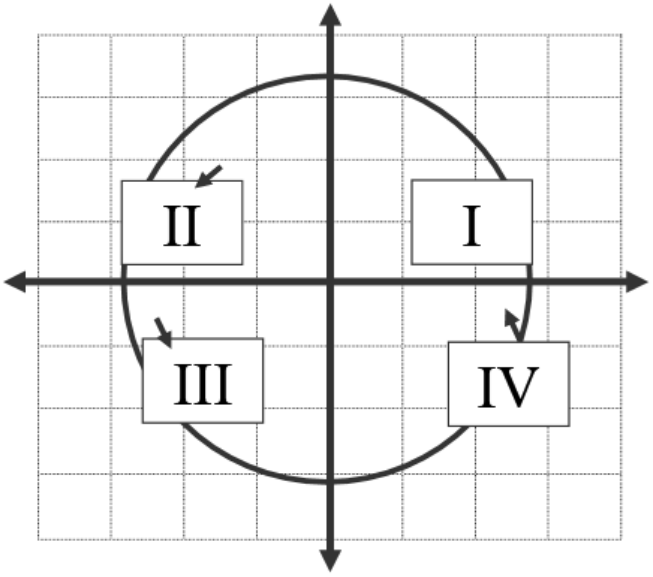
Get The Point 1-9A

The system for graphing points and lines in a plane that we use today was invented by a man named René Descartes, so it has become known as the **Cartesian coordinate system**. In this system, every point can be represented by an **ordered pair** (x, y), where x is a distance in the horizontal direction, and y is a distance in the vertical direction, measured from the middle of the system which is the point (0, 0), also called the **origin**.

1. Mark and label the following points: the *origin*, A(2, 3), B(-3, 1), C(-3, -2) and D(1, -3).



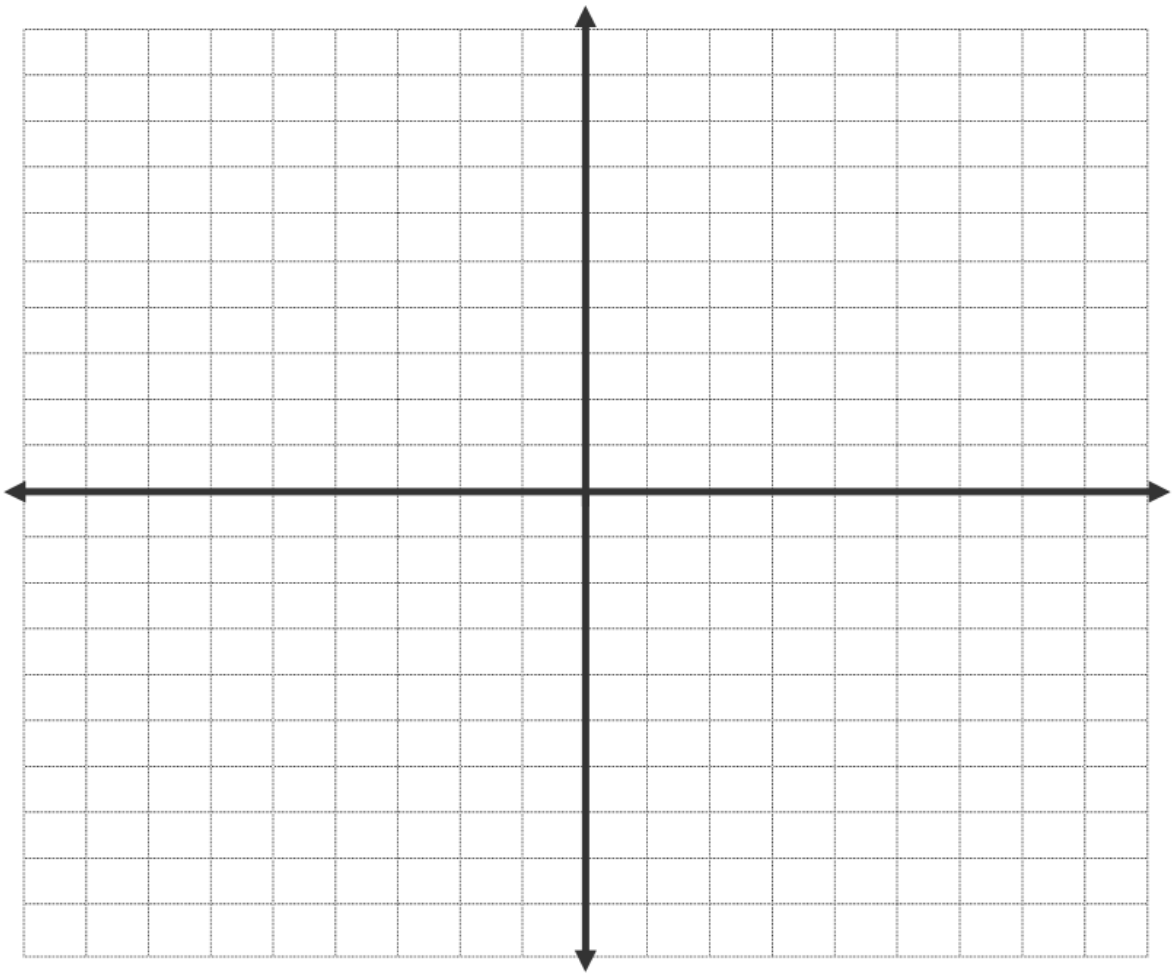
The x-axis and the y-axis divide the graphing plane into four regions called quadrants I, II, III, and IV. They are numbered counter-clockwise starting from the upper right quadrant, as shown below. Points that lie on either axis do not lie in any quadrant.



2. Graph and label the following points on the coordinate axes below, then connect the points with line segments in alphabetical order.

A(0, 4), B(-5, 8), C(-3, -7), D(2, 9), E(-8, 0), F(-1, -1), G(7,-2), H(1, 3)

1-9B



3. List the points that lie in Quadrant I:

4. List the points that lie in Quadrant II:

5. List the points that lie in Quadrant III:

6. List the points that lie in Quadrant IV:

7. List the points that lie on an axis between two quadrants:

HW p 64: 13,16 , 23, & , 27

Tell whether the given equation has the ordered pair as a solution.

13. $y = -4x; (-2, 8)$

16. $\frac{x}{5} = y; (-10, -2)$

Use the table to write an equation and answer the question.

23. The table shows the heights in inches of trees after they have been planted. What is the height of a tree that is 64 in. tall in its pot?

Tree Height

Height in Pot, x	Height Without Pot, y
30	18
36	24
42	30
48	36

Tell whether the given ordered pair is a solution of the equation.

27. $y = 2x + 7; (-2, 3)$

Extend Page

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