Before Class:

☐ Read the objectives on page 169.

☐ Read the Helpful Hint box on page 172.

☐ Complete the exercises:

1. Does the order in which coordinates are listed matter?

2. The graph of paired data as points in the rectangular coordinate system is called a __________________________ diagram.

3. If there is a clear relation between two quantities plotted on a graph, the quantities are said to be __________________________.

During Class:

☐ Write your class notes. Neatly write down all examples shown as well as key terms or phrases with definitions. If not applicable or if you were absent, watch the Lecture Series (DVD) for this section and do the same (write down the examples shown as well as key terms or phrases). Insert more paper as needed.

<table>
<thead>
<tr>
<th>Class Notes/Examples</th>
<th>Your Notes</th>
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Answers: 1) yes 2) scatter 3) correlated
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<th>Class Notes (continued)</th>
<th>Your Notes</th>
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(Insert additional paper as needed.)
Practice:

☐ Complete the Vocabulary and Readiness Check on page 179.

☐ Next, complete any incomplete exercises below.  Check and correct your work using the answers and references at the end of this section.

Review this example:

1. The following bar graph shows the estimated number of Internet users worldwide by country, as of a recent year.

   a. Find the country that has the most Internet users and approximate the number of users.
   b. How many more users are in the United States than in China?

   a. Look for the longest bar, which is the bar representing the United States. Move from the right edge of this bar downward to the axis. This country has approximately 198 million Internet users.

   b. The United States has approximately 198 million Internet users. China has approximately 120 million Internet users. The United States has $198 - 120 = 78$ million more Internet users.

Your turn:

2. The following bar graph shows the top 10 tourist destinations and the number of tourists that visit each country per year.

   a. Which country shown is the most popular tourist destination?
   b. Which countries shown have more than 40 million tourists per year?
   c. Estimate the number of tourists per year whose destination is the United Kingdom.
Section 3.1 Reading Graphs and the Rectangular Coordinate System

**Review this example:**

3. On a single coordinate system, plot each ordered pair.
   a. \((5,3)\)  
   b. \((-5,3)\)  
   c. \((-2,-4)\)  
   d. \((1,-2)\)  
   e. \((0,0)\)  
   f. \((0,2)\)  
   g. \((-5,0)\)  
   h. \((0,-5\frac{1}{2})\)

**Your turn:**

4. Plot each ordered pair.
   a. \((1,5)\)  
   b. \((-5,-2)\)  
   c. \((-3,0)\)  
   d. \((0,-1)\)  
   e. \((2,-4)\)  
   f. \((-1,4\frac{1}{2})\)  
   g. \((3,7,2,2)\)  
   h. \((\frac{1}{2},-3)\)

**Review this example:**

5. Determine whether each ordered pair is a solution of the equation \(x - 2y = 6\).
   a. \((6,0)\)  
   b. \((0,3)\)

   a. Let \(x = 6\) and \(y = 0\) in the equation \(x - 2y = 6\).
      \(x - 2y = 6\)
      \(6 - 2(0) = 6\)
      \(6 - 0 = 6\)
      \(6 = 6\)  
      \((6,0)\) is a solution since \(6 = 6\) is a true statement.

   b. Let \(x = 0\) and \(y = 3\).
      \(x - 2y = 6\)
      \(0 - 2(3) = 6\)
      \(0 - 6 = 6\)
      \(-6 = 6\)  
      \((0,3)\) is not a solution since \(-6 = 6\) is a false statement.

**Your turn:**

6. Determine whether each ordered pair is a solution of the linear equation \(2x + y = 7\).
   \((3,1), (7,0), (0,7)\)
Review this example:

7. Complete the following ordered pair solutions for the equation $3x + y = 12$.

a. $(0, 6)$  
b. $(-1, \quad )$

a. In the ordered pair $(0, 6)$, the $y$-value is 6. Let $y = 6$ in the equation and solve for $x$.

\begin{align*}
3x + y &= 12 \\
3x + 6 &= 12 \\
3x &= 6 \\
x &= 2 \\
\text{The ordered pair is } (2, 6).
\end{align*}

b. In the ordered pair $(-1, \quad )$, the $x$-value is $-1$. Let $x = -1$ in the equation and solve for $y$.

\begin{align*}
3x + y &= 12 \\
3(-1) + y &= 12 \\
-3 + y &= 12 \\
y &= 15 \\
\text{The ordered pair is } (-1, 15).
\end{align*}

Your turn:

8. Complete each ordered pair so that it is a solution of the linear equation $x - 4y = 4$.

$(\quad , -2), (4, \quad )$
Next, insert your homework. Make sure you attempt all exercises asked of you and show all work, as in the exercises above. Check your answers if possible. Clearly mark any exercises you were unable to correctly complete so that you may ask questions later. DO NOT ERASE YOUR INCORRECT WORK. THIS IS HOW WE UNDERSTAND AND EXPLAIN TO YOU YOUR ERRORS.