4(6 + 12) ÷ 2

4(18) ÷ 2

72 ÷ 2 = 36
<table>
<thead>
<tr>
<th>#</th>
<th>Date</th>
<th>Assignment</th>
<th>Grades</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1/4/12</td>
<td>Geometry Vocabulary</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>1/4/12</td>
<td>Geometry Vocabulary Bingo</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>1/6/12</td>
<td>Geometry Crossword Puzzle</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>1/9/12</td>
<td>Angles and Lines</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>1/10/12</td>
<td>Triangles and Polygons</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>7.</td>
<td></td>
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</tr>
<tr>
<td>8.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7-5 Polygons

A **polygon** is a closed figure that starts and stops at the same point. A polygon is made up of line segments that do not cross.

Determine whether each figure is a polygon. If it is not, explain why not.

1.  

2.  

3.  

Polygons can be classified by the number of sides or angles. The number of sides and angles is the same.

Complete the table.

<table>
<thead>
<tr>
<th>Name</th>
<th>Number of Sides</th>
<th>Number of Angles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triangular</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Quadrilateral</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Pentagon</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>
Polygons

<table>
<thead>
<tr>
<th>Name</th>
<th>Number of Sides</th>
<th>Number of Angles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triangle</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Quadrilateral</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Pentagon</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Hexagon</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Heptagon</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Octagon</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Nonagon</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Decagon</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

All the sides of a **regular polygon** have the same length, and all the angles have the same measure.

Determine whether each is a regular polygon. If it is not, explain why not.
All the sides of a regular polygon have the same length, and all the angles have the same measure.

Determine whether each is a regular polygon. If it is not, explain why not.

12. 110° 8 cm 70°
    8 cm 8 cm
    70° 8 cm 110°

13. 120° 2 in. 120°
    120° 2 in. 120°
    120° 2 in. 120°

14. 9 in.
    90° 90°
    90° 90°

9 in.
4 in.
Choose the letter for the best answer.

The box shows some basic shapes from a word processing tool bar.

6. Which figure is *not* a quadrilateral?
   A Figure 2  
   B Figure 3  
   C Figure 4  
   D Figure 5

7. Which figure is *not* a polygon?
   F Figure 3  
   G Figure 9  
   H Figure 11  
   J Figure 12

8. Which figure is a pentagon?
   A Figure 4  
   B Figure 5  
   C Figure 10  
   D Figure 12

9. Which figure is a regular polygon?
   F Figure 1  
   G Figure 2  
   H Figure 7  
   J Figure 8

10. Which figure is an octagon?
    A Figure 6  
    B Figure 10  
    C Figure 11  
    D Figure 12
All triangles have at least two acute angles.

If the third angle is acute, the triangle is an **acute triangle**.

If the third angle is right, the triangle is a **right triangle**.

If the third angle is obtuse, the triangle is an **obtuse triangle**.

A triangle is **scalene** if each side is a different length.

A triangle is **isosceles** if two sides are the same length.

A triangle is **equilateral** if all three sides are the same length.

Use the figure to complete the statements.

1. Each of the 3 angles is less than 90°, so the triangle is an ______________ triangle.

3 sides that have the same ______________ triangle.
Classifying Triangles

sides
- equilateral
- scalene
- isosceles

angles
- right
- acute
- obtuse
Classify each triangle according to its angles and sides.

1. Right, isosceles
2. Acute, isosceles
3. Acute, scalene
4. Right, scalene
5. Equilateral, acute
6. Scalene, obtuse
7. Scalene, acute
8. Obtuse, isosceles
9. Right, scalene

Identify the different types of triangles in each figure and determine how many of each there are.
Homework for January 10, 2012

p. 370 (2 - 18) even
p. 376 (2 - 20) even