Introduction to Angles

Name: _____

Date: _____

Example 1. Define the following terms and draw a picture of each one.

- Point

- Line

- Line segment

- Ray

- Parallel lines

- Perpendicular lines

- Angle

- Degree

- Acute angle

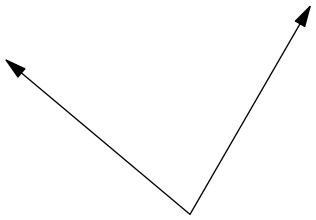
- Right angle

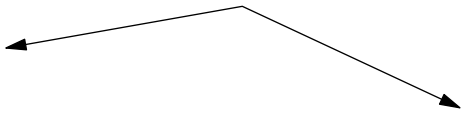
- Obtuse angle

- Complementary angles

- Supplementary angles

Example 2. Consider the following two angles.





- Which angle is larger?

- Which angle is acute and which angle is obtuse?

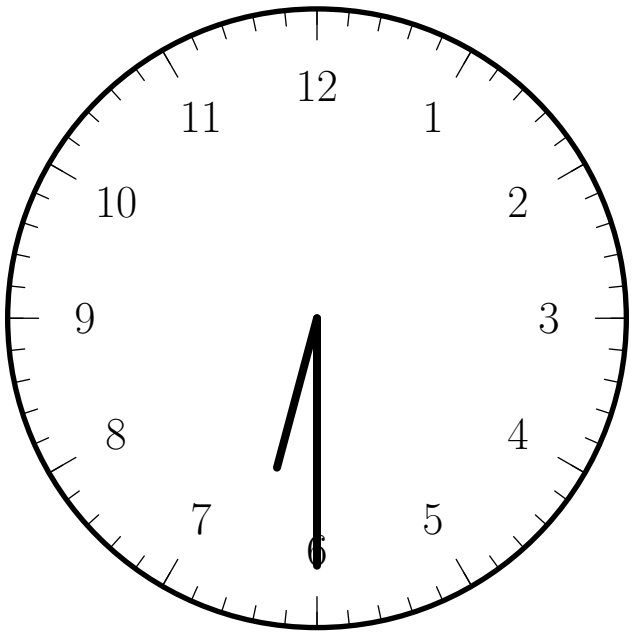
- Using a protractor, determine the degree measure of each angle. Make sure to include the degree sign in your answer. You may have to extend the rays that form each angle with a ruler. Ensure that the larger angle has the larger degree measure.

- Name the angles by giving drawing in some points and assigning each one a letter.

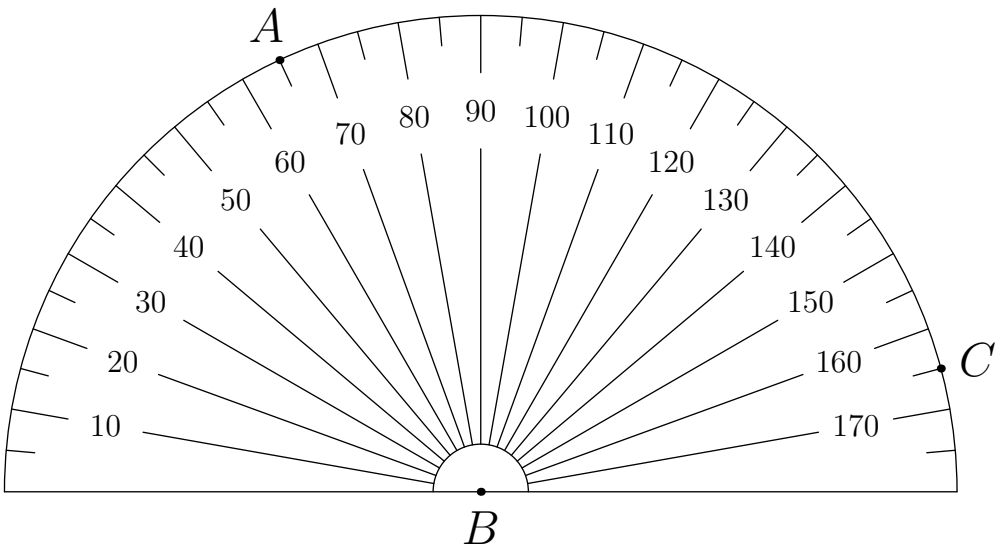
Example 3. How many right angles are there in a full revolution? How many degrees are there in a full revolution?

Example 4. An angle is 6 degrees greater than its complement. What is the degree measure of the angle?

Example 5. Without using a protractor, determine the degree measure of the angle formed by the hour hand and the minute hand at 6:30 p.m.



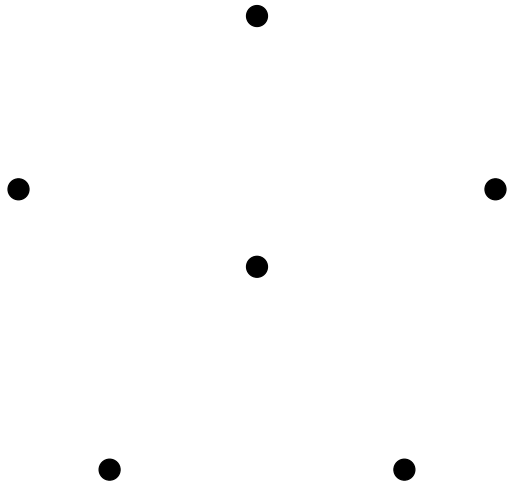
Problem 1. Without using a protractor, find the degree measure of $\angle ABC$.



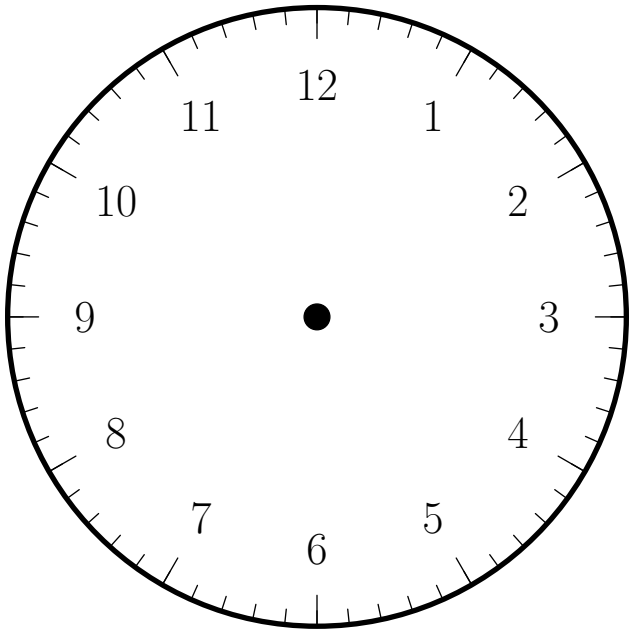
Problem 2. Is it possible to have two acute angles that are complementary? What about two acute angles that are supplementary? Why or why not?

Problem 3. The supplement of an angle is three times as large as the angle's complement. What is the degree measure of the angle?

Problem 4. Determine the number of lines that pass through at least two of the following points.

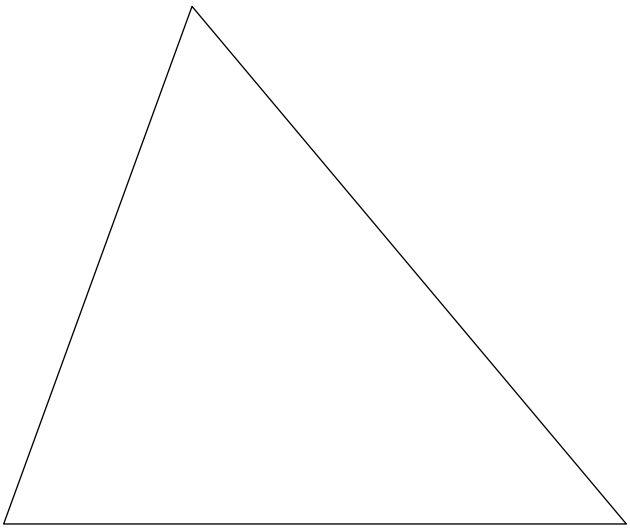


Problem 5. Without using a protractor, determine the degree measure of the angle formed by the hour hand and the minute hand at 3:20 p.m.



Problem 6. A circular pizza is cut into three slices formed by three straight cuts to its center. If Lucas's slice is three times the size of Tennyson's slice, and Tennyson's slice is twice the size of Oliver's slice, what is the degree measure formed by the two straight sides of Oliver's slice?

Problem 7. A *triangle* is a shape with three straight sides, such as the following shape.



- Using a protractor, find the sum of the degree measures of the above triangle's three angles.

- Draw a different triangle in the space below. What is the sum of the degree measure of your triangle's three angles?

- Do you always get the same answer? Why or why not?