## Lesson 2.3 - What is a degree?

Before we move onto the last basic rigid motion, we need to explore the meaning of a degree. To begin, complete the following activity.

Set 1- Fill in the blanks and answer any questions.



A protractor is divided up into how many segments? $\qquad$
Each segment represents a
$\qquad$ .

In what direction does the outside track count from 0 to 180?

In what direction does the inside track count from 0 to 180 ? $\qquad$

How would you describe the shape of a protractor?

What shape would you form if you took two protractors and lined up the straight sides of each?

How many degrees does a circle contain?


In your own words, explain what a degree is.

Set 2 - Fill in the blank and answer the question below. Show your work.
A clock contains 12 hours and $\qquad$ degrees.

How many degrees does one hour contain?


Draw an angle from the center of the clock. Have one side of the angle pass through 10 o'clock and the other side pass through 9 o'clock. Measure the minor angle formed to verify your answer of the amount of degrees an hour contains. State your measurement below.

Calculate the measure of the major angle formed by the rays that pass through 9 and 10 .

Set 3 - Calculate the number of degrees that the major and minor angles contain when two rays begin at the center of the clock and pass through the following times. Use the diagram to draw the angle and measure the minor angle to verify your work. Actual measurements may be different than your calculated answers by a degree or two.

| A) 12 o'clock and 4 o'clock. Show work. <br> Minor angle $=$ <br> Major angle $=$ |  |
| :---: | :---: |
| B) 12 o'clock and 9 o'clock. Show work. <br> Minor angle $=$ <br> Major angle $=$ |  |


| C) 3 o'clock and 8 o'clock. Show work. <br> Minor angle $=$ <br> Major angle = |  |
| :---: | :---: |
| D) 1 o'clock and 3 o'clock. Show work. <br> Minor angle $=$ <br> Major angle = |  |
| E) 1 o'clock and 7 o'clock. Show work. <br> Minor angle $=$ Major angle = |  |
| F) 12 o'clock and 4:30. Show work. Minor angle = <br> Major angle $=$ |  |

## Review

A) Calculate the number of degrees that the major and minor angles contain when two rays begin at the center of the clock and pass through the following times. Use the diagram to draw the angle and measure the minor angle to verify your work. Actual measurements may be different than your calculated answers by a degree or two.
B) Without a diagram, determine the angle formed by the condition stated.


