Lesson 14: Reasoning about Angles (Part 1)

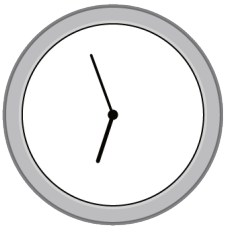
- Let's find the size of angles on the clock.

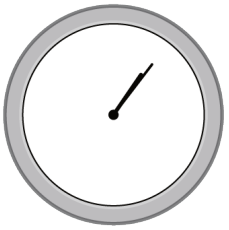
Warm-up: Which One Doesn't Belong: Time After Time

Which one doesn't belong?

A 

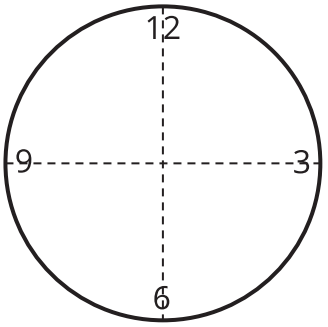
B 

C 

D 

14.1: Draw a Clock

Kiran is drawing a clock. He draws a pair of perpendicular lines to find the placement of the numbers 3, 6, 9, and 12 around the circle.



1. How many degrees is each angle he has drawn so far? Explain how you know.

2. Help Kiran find the exact placement of the numbers “1” and “2” on the clock.

   a. How many new lines does he need to draw?

   b. What angles should be formed between the two lines he has already drawn and the new ones?

   c. Draw the lines precisely and place the numbers “1” and “2” on the drawing.

3. Measure and draw as many lines as needed to complete the clock drawing so that all the numbers are precisely placed where they should be.

14.2: Tick Tock

1. What angles are formed by the hour and minute hands of the clock at these times?

   a. 6 o'clock

   b. 8 o'clock

   c. 9 o'clock

   d. 11 o'clock

   e. 12 o'clock

2. How many degrees has the minute hand turned when it moves from 2:00 to 2:05?

   What about from 2:05 to 2:30? Explain how you know.

3. The minute hand of the clock is vertical at 7 p.m. Sometime later, it makes an angle that is 120° from where it was at 7 p.m. What time could it be?

4. How many degrees does the minute hand turn in:

   a. 10 minutes?

   b. 1 minute?

   c. 4 minutes?