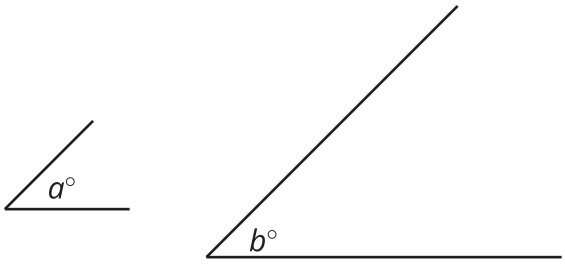
Unit 7, Lesson 1

Relationships of Angles

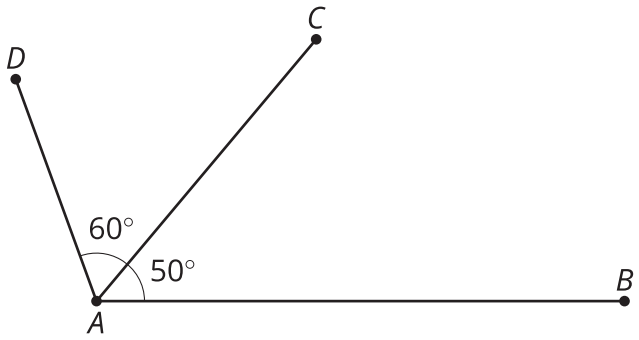
Let's examine some special angles.

1.1 Visualizing Angles

1. Which angle is bigger?



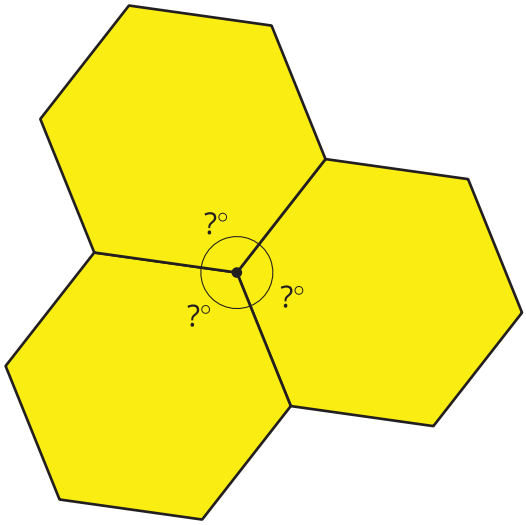
2. Identify an obtuse angle in the diagram.



1.2 Pattern Block Angles

1. Trace one copy of every different pattern block. Each block contains either 1 or 2 angles with different degree measures. Which blocks have only 1 unique angle? Which blocks have 2 unique angles?

2. If you trace three copies of the hexagon so that one vertex from each hexagon touches the same point, as shown, they fit together without any gaps or overlaps. Use this to figure out the degree measure of the angle inside the hexagon pattern block.

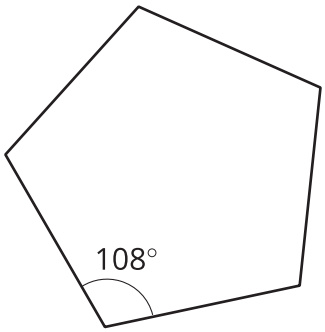


3. Figure out the degree measure of all of the other angles inside the pattern blocks that you traced in the first question. Be prepared to explain your reasoning.

Are you ready for more?

We saw that it is possible to fit three copies of a regular hexagon snugly around a point.

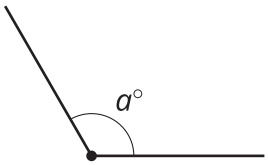
Each interior angle of a regular pentagon measures 108°. Is it possible to fit copies of a regular pentagon snugly around a point? If yes, how many copies does it take? If not, why not?

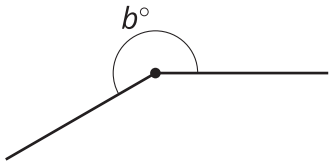


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1.3 More Pattern Block Angles

1. Use pattern blocks to determine the measure of each of these angles.



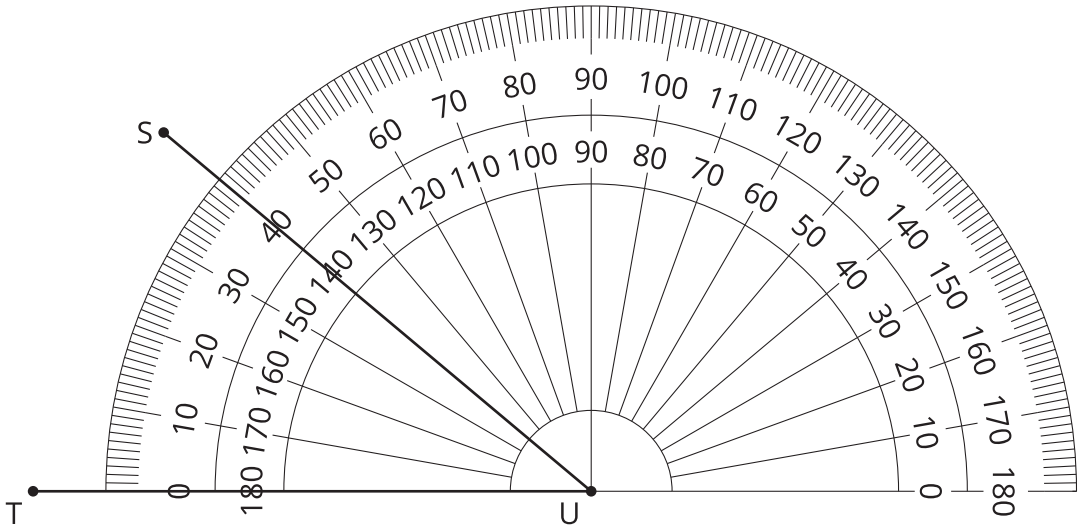




2. Find as many different combinations of pattern blocks as you can that make a straight angle.

1.4 Measuring Like This or That

Tyler and Priya were both measuring angle TUS.

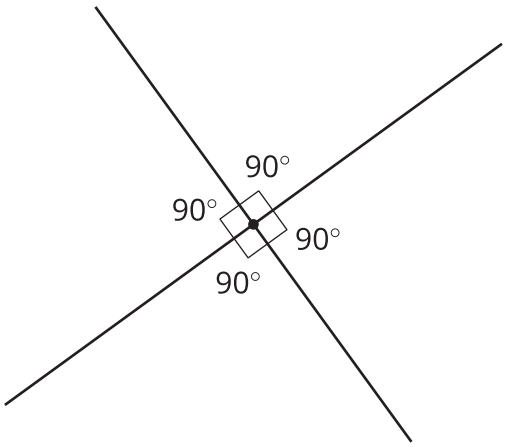


Priya thinks the angle measures 40 degrees. Tyler thinks the angle measures 140 degrees. Do you agree with either of them? Explain your reasoning.

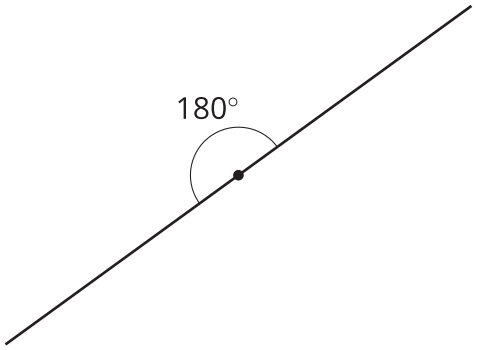
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Lesson 1 Summary

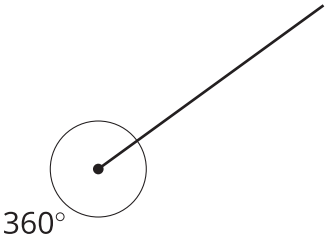
When two lines intersect and form four equal angles, we call each one a **right angle**. A right angle measures 90°. You can think of a right angle as a quarter turn in one direction or the other.



An angle in which the two sides form a straight line is called a **straight angle**. A straight angle measures 180°. A straight angle can be made by putting right angles together. You can think of a straight angle as a half turn, so that you are facing in the opposite direction after you are done.



If you put two straight angles together, you get an angle that is 360°. You can think of this angle as turning all the way around so that you are facing the same direction as when you started the turn.



When two angles share a side and a vertex, and they don't overlap, we call them **adjacent angles**.