

# Lesson Printables

Be a rockstar and only print what you need!



**Planners: 2-3**

**Angles**  
All Zones: 4-5

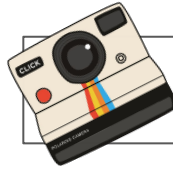
**Extras**  
Recording Log: 6  
Challenge: 7  
Angle Cards: 8

**Answers**  
All Zones: 9-10

*\*Printing in the US? Scale to 'fit to printable area' in order to get the best print.*

## LESSON 1: Shape and Space - Introduction to angles

Starter	Main Activity and Input: Exploring angles.	Plenary
<p><b>Probable Possibilities:</b> Which scenario belongs to which sign?</p> <p><b>To support:</b> 1. What do the words on the signs mean? Discuss each word individually.</p> <p><b>To challenge:</b> 1. What are some other possible scenarios that could go with each sign? Students could try to come up with their own scenarios.</p>	<p><b>Input:</b></p> <ol style="list-style-type: none"><li>Slide 6 shows a picture of the Angles family. What do students notice? What do they already know about angles? Discuss ideas and observations as a class. We will explicitly go into each angle throughout the lesson.</li><li>Slide 7 shows a picture of different angles. We have defined angles as the space between two lines that meet at an endpoint or vertex. Slide 7 explains angles are measured in degrees. What do students notice about the angles? It might be helpful to draw a curved line to show where the angles can be found. (We have not done this, as all the angles are right angles. We have used the appropriate symbol for right angles on the following slide. Note, we will not discuss reflex angles, although they could come up in discussion.)</li><li>Slide 8 explains that all of the angles are right angles. Right angles are formed when two perpendicular lines meet and always measure <math>90^\circ</math>. The symbol to identify right angles is a little square/box in the vertex. Can students try to make a right angle with their arms or legs?</li><li>Slide 9 shows several different angles and models using a sticky note to identify right angles. Model lining up a vertex of your sticky note with a vertex on the slide and also one of the lines of the angle. If the two lines match the edges of the sticky note, the angle is a right angle. You could provide students with their own sticky note (or any piece of paper) and have them come to the board to model exploring if any of the angles are right angles. Note, one of the angles is NOT a right angle. Can students identify it? This helps introduce the next type of angle.</li><li>Slides 11 to 16 repeat this process with obtuse and acute angles. Continue to model lining up a sticky note with the vertex of the angle and one of the lines. If the other line goes 'beyond' the sticky note, the angle is an obtuse angle. If the sticky note covers one of the lines, it is smaller than a right angle, so must be an acute angle.</li><li>Slides 17 and 18 introduce straight angles. These are straight lines and always measure <math>180^\circ</math>.</li></ol> <p><b>Activity: Identifying angles.</b></p> <ol style="list-style-type: none"><li>Print and cut out the angles found in the printables. Students could share these amongst themselves and use sticky notes to identify each angle. Students do not need to identify all of the angles. Students can record their findings in the recording logs found in the printables. <i>*You could use the angles found in the printables for this lesson or set up your own angles in the classroom or your learning space using tape or chalk. Students could also look for angles found around the classroom. E.g. Angles on your desk, flooring, whiteboards, etc.</i></li></ol> <p><b>To support:</b></p> <ol style="list-style-type: none"><li>Work with students to help them practice lining up the sticky note so that it measures the angle shown.</li><li>Provide students with angle cards to refer to (see printables).</li></ol> <p><b>To challenge:</b></p> <ol style="list-style-type: none"><li>Students could include an estimated measurement in degrees.</li><li>Once students have identified several angles, you could provide them with the challenge cards found in the printables. Students should colour-code the angles that they see in the picture. E.g. All right angles are yellow, obtuse angles green, etc. Students could also make their own versions of the challenge line picture.</li></ol>	<p><b>Vocab Recap:</b> Reflect on the new words that were discussed in this lesson.</p> <p><b>Check for understanding:</b></p> <ol style="list-style-type: none"><li>Can students explain the meaning of each word? (Students could write their answers on a sticky note or share their definitions with the class.)</li></ol>

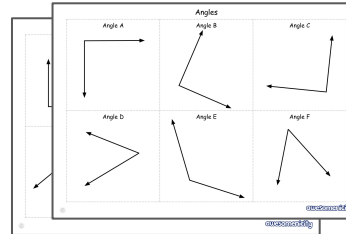


## Peek at the Printables:

### Things that might be useful for this lesson:

- Individual whiteboards:
  - Help students to record their thinking and share ideas with others.
- Print angles cards:
  - For students who need scaffolding.
- Print extra challenges:
  - For students who need extension.

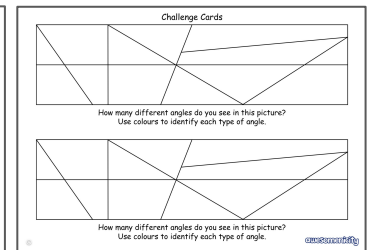
### Angles



### Recording Log

Recording Logs			
Angle Letter	Type of Angle	Angle Letter	Type of Angle

### Extra Challenges



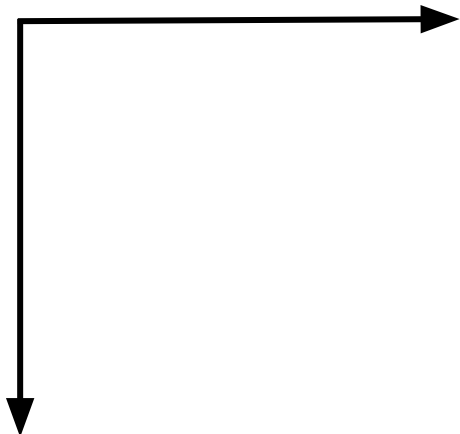
## Greener Alternatives:

- Rather than printing the angles, you could create angles using chalk outside, tape inside, or on small whiteboards in stations.

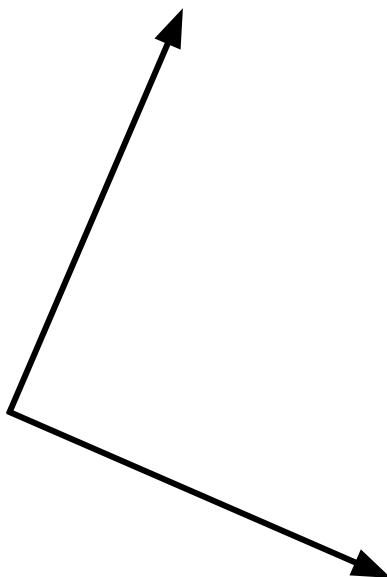


# Angles

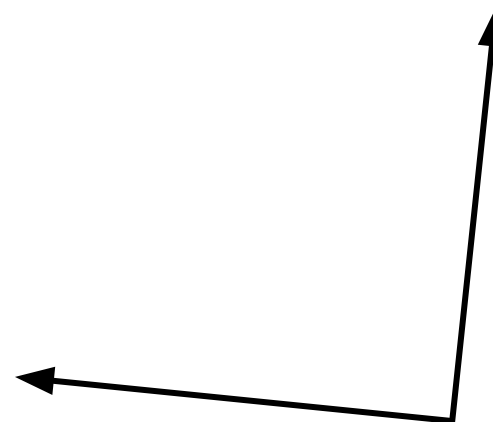
Angle A



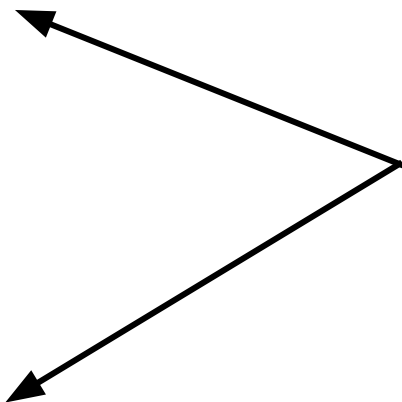
Angle B



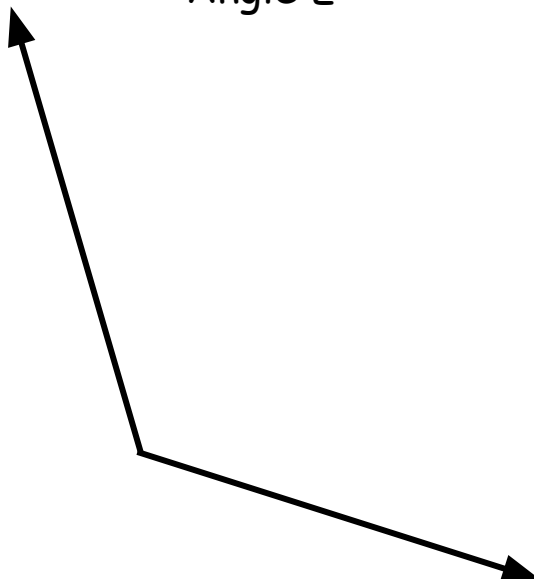
Angle C



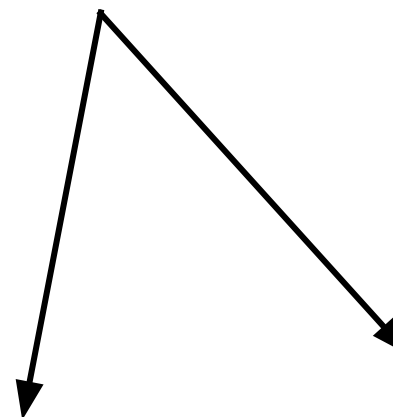
Angle D



Angle E

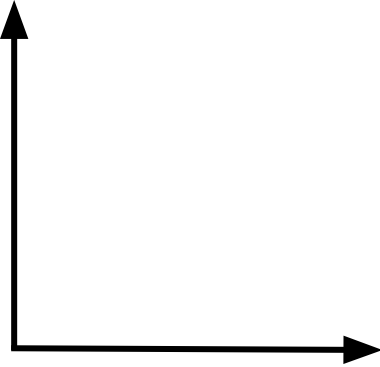


Angle F

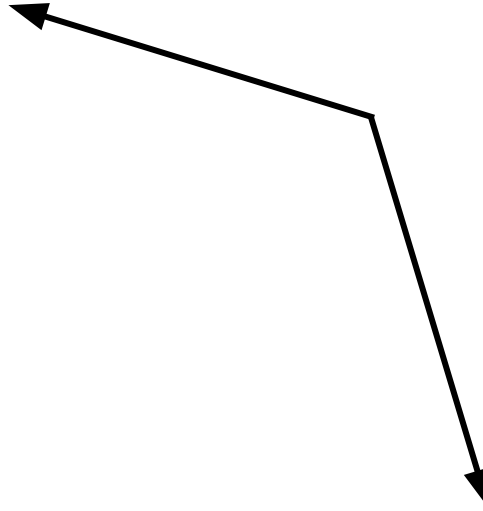


# Angles

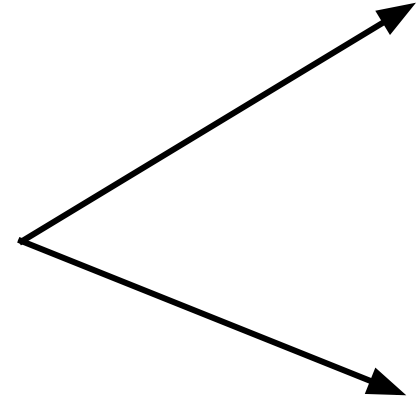
Angle G



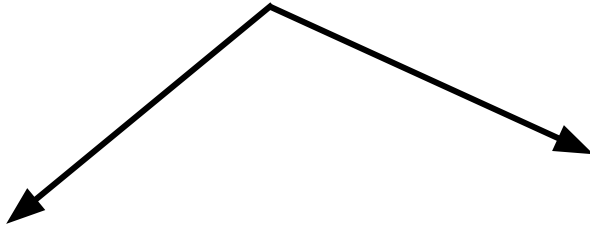
Angle H



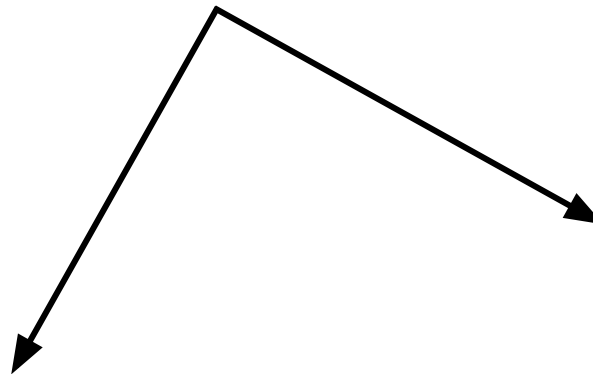
Angle I



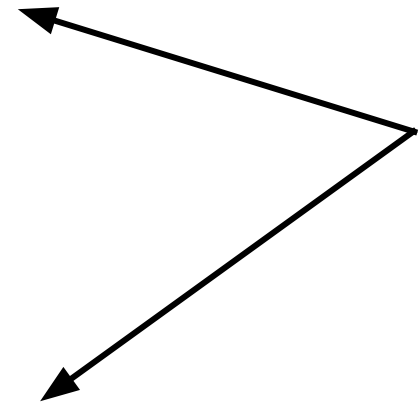
Angle J



Angle K



Angle L

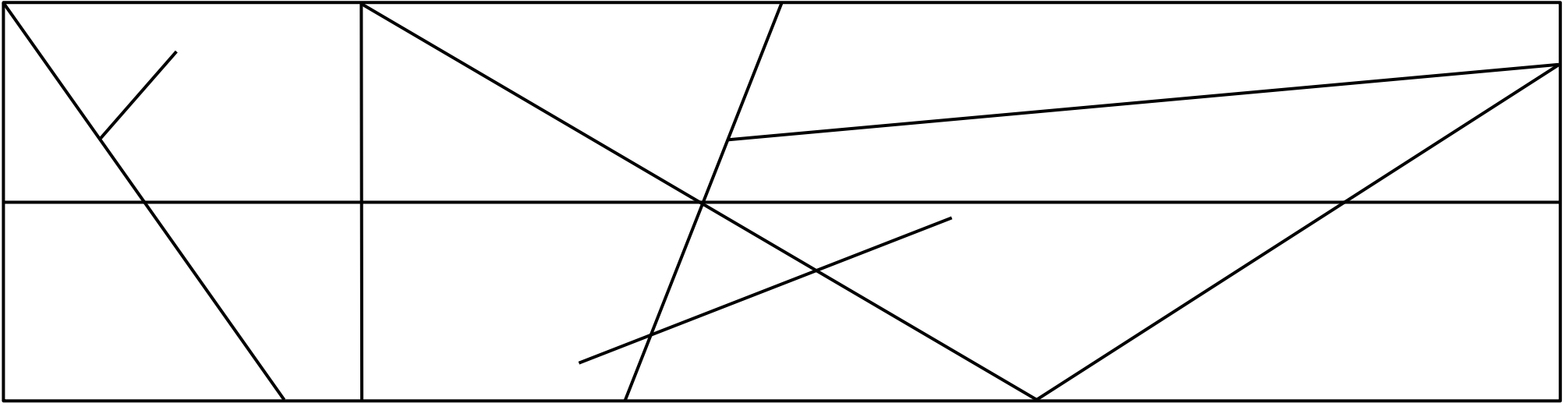


# Recording Logs

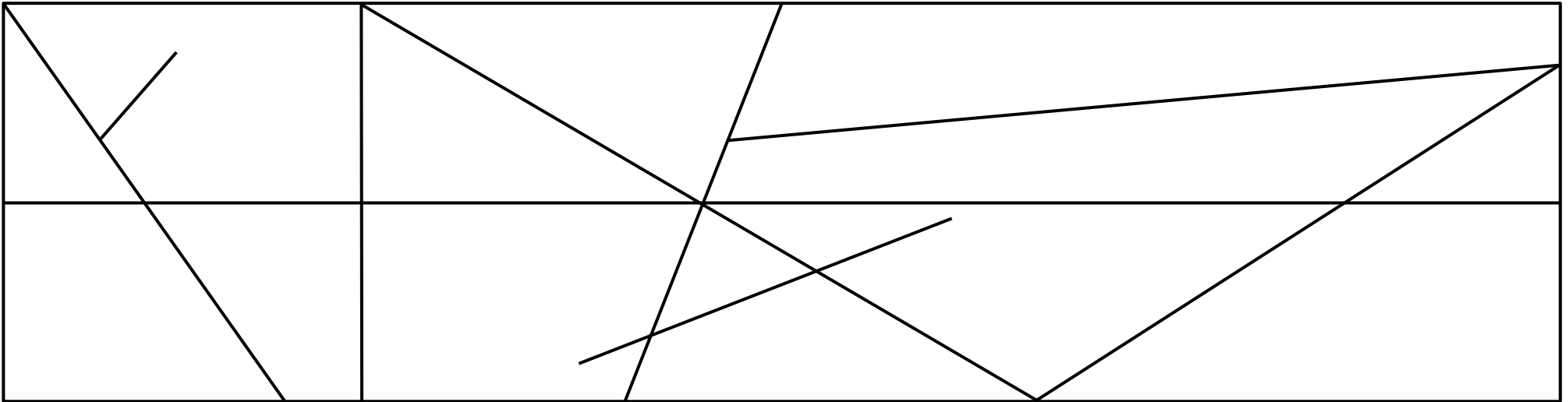
Letter	Type of Angle	Estimation in $^{\circ}$

Letter	Type of Angle	Estimation in $^{\circ}$

# Challenge Cards

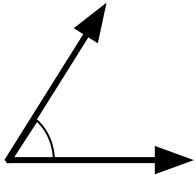
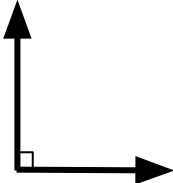
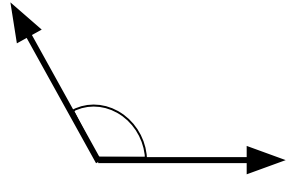



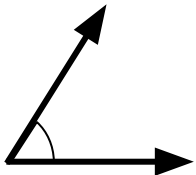
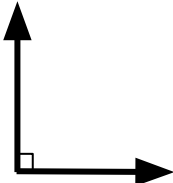
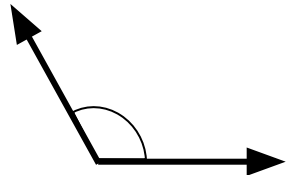

How many different angles do you see in this picture?  
Use colours to identify each type of angle.

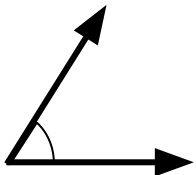
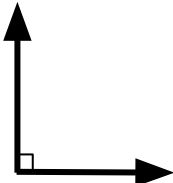
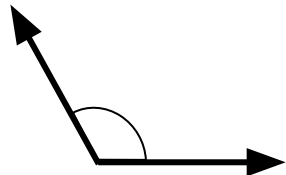



How many different angles do you see in this picture?  
Use colours to identify each type of angle.

# Angle Cards

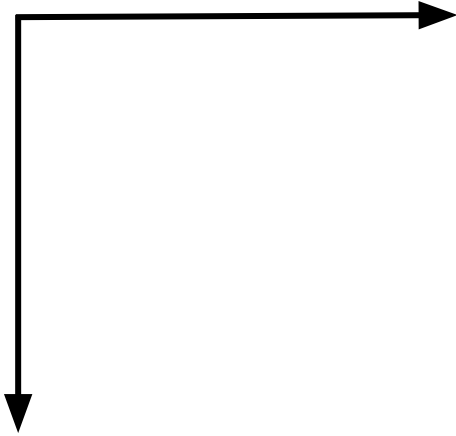
Acute Angle	Right Angle	Obtuse Angle	Straight Angle
			
Less than $90^\circ$	$90^\circ$	Between $90^\circ$ and $180^\circ$	$180^\circ$

Acute Angle	Right Angle	Obtuse Angle	Straight Angle
			
Less than $90^\circ$	$90^\circ$	Between $90^\circ$ and $180^\circ$	$180^\circ$

Acute Angle	Right Angle	Obtuse Angle	Straight Angle
			
Less than $90^\circ$	$90^\circ$	Between $90^\circ$ and $180^\circ$	$180^\circ$

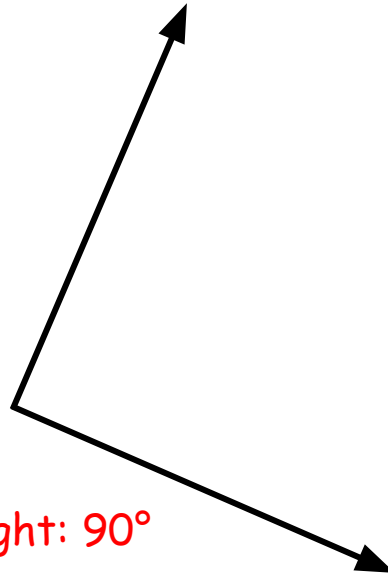
# Angle Answers

Angle A



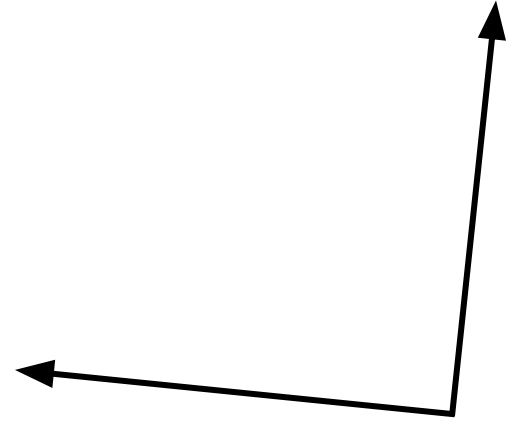
Right:  $90^\circ$

Angle B



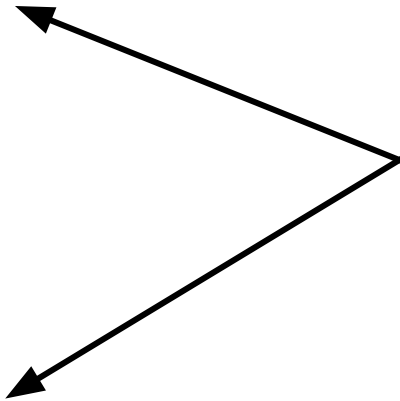
Right:  $90^\circ$

Angle C



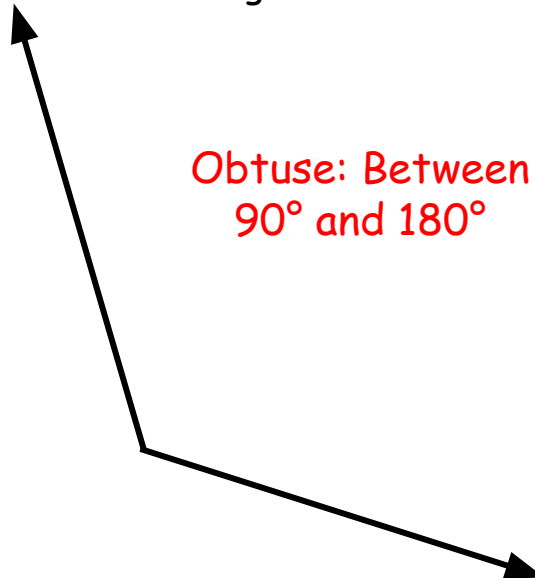
Right:  $90^\circ$

Angle D



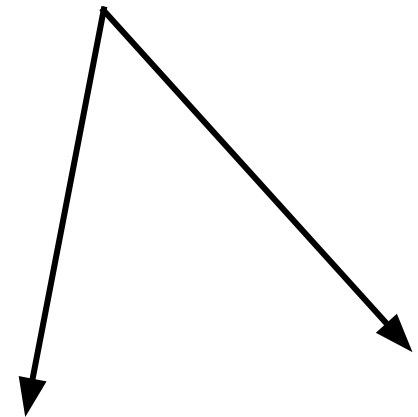
Acute: Less than  $90^\circ$

Angle E



Obtuse: Between  $90^\circ$  and  $180^\circ$

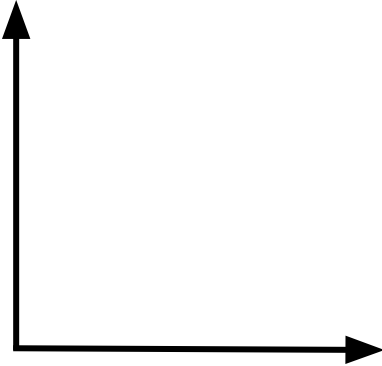
Angle F



Acute: Less than  $90^\circ$

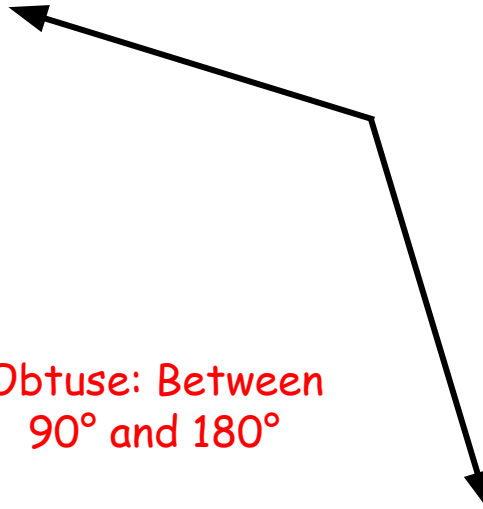
# Angle Answers

Angle G



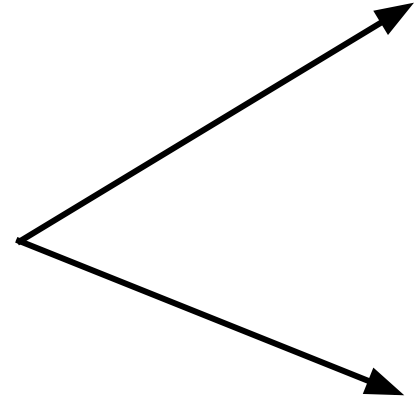
Right:  $90^\circ$

Angle H



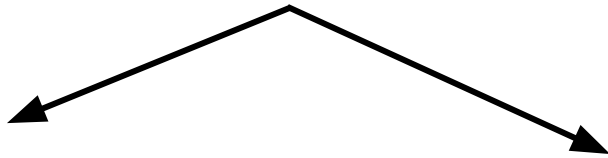
Obtuse: Between  $90^\circ$  and  $180^\circ$

Angle I



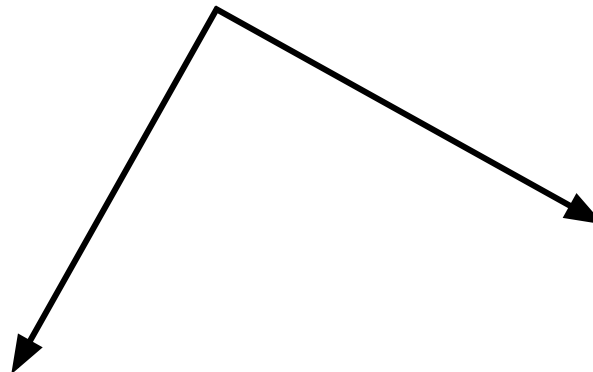
Acute: Less than  $90^\circ$

Angle J



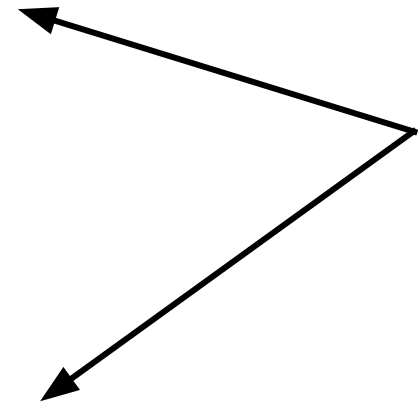
Obtuse: Between  $90^\circ$  and  $180^\circ$

Angle K



Right:  $90^\circ$

Angle L



Acute: Less than  $90^\circ$