# MISCONCEPTION RELATED TO ANGLES:
A LARGER SPACE MEANS A LARGER ANGLE

Students frequently hold the misconception that a larger space between two lines of an angle means that the angle is larger than another angle with a smaller space. What students interpret as a larger turn, or rotation, and a larger space between two lines that make up an angle is actually a perceptual illusion. If similar angles are drawn on squared (or graph) paper, and one of the angles has a larger amount of space (or larger area), students can mistakenly conclude that this angle is larger. Consider the following example:
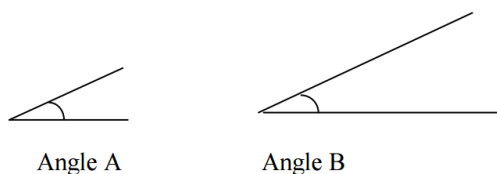
Q.   Compare the sizes of Angle A and Angle B.

Ans.   Angle A is smaller than Angle B

Suggested remedy:

- When referring to the lines that make up an angle, teachers can differentiate between a larger turn and a larger space.

- Geostix can be used to show that the turn doesn't change when the lines that make up an angle are extended.

- Angles should be characterized by the amount of turn between two lines at their common point.

- To overcome this common misconception, teachers could use a model that joins two sticks of different lengths.

- Teachers can use other terms, such as *pivot* or *rotation*, to develop a complete definition of an angle.

- Teachers can also use different models of angles, such as the hands of a clock.

- To counter the perceptual illusion of a larger space, teachers can have students measure angle size with a protractor. This evidence will challenge students' mistaken intuitive perception of space.