

# Unit 1 Lesson 17: Drawing Triangles

## 1 Using a Compass to Estimate Length (Warm up)

### Student Task Statement

1. Draw a  $40^\circ$  angle.
2. Use a compass to make sure both sides of your angle have a length of 5 centimeters.
3. If you connect the ends of the sides you drew to make a triangle, is the third side longer or shorter than 5 centimeters? How can you use a compass to explain your answer?

## 2 How Many Can You Draw?

### Student Task Statement

1. Draw as many different triangles as you can with each of these sets of measurements:
  - a. Two angles measure  $60^\circ$ , and one side measures 4 cm.
  - b. Two angles measure  $90^\circ$ , and one side measures 4 cm.
  - c. One angle measures  $60^\circ$ , one angle measures  $90^\circ$ , and one side measures 4 cm.
2. Which of these sets of measurements determine one unique triangle? Explain or show your reasoning.

### 3 Revisiting How Many Can You Draw?

#### Student Task Statement

1. Draw as many different triangles as you can with this set of measurements.
  - a. One angle measures  $40^\circ$ , one side measures 4 cm, and one side measures 5 cm.
  - b. Do these measurements determine one unique triangle? How do you know?
2. Draw as many different triangles as you can with each of these sets of angle measurements. Do either of these sets of measurements determine one unique triangle? Explain how do you know.
  - a. One angle measures  $50^\circ$ , one measures  $60^\circ$ , and one measures  $70^\circ$ .
  - b. One angle measures  $50^\circ$ , one measures  $60^\circ$ , and one measures  $100^\circ$ .