

# How Many Triangles Can Be Created?

Determine whether you can create *one*, *more than one*, or *no triangle* for each description below. Write each answer on the blank. If needed, you can try drawing the triangles on a separate piece of paper using a protractor and ruler.

**1** A triangle with side lengths of 5 centimeters, 3 centimeters, and 4 centimeters

\_\_\_\_\_ **one triangle** \_\_\_\_\_

**2** A triangle with angle measures of  $35^\circ$ ,  $80^\circ$ , and  $65^\circ$

\_\_\_\_\_ **more than one triangle** \_\_\_\_\_

**3** A triangle with angle measures of  $100^\circ$ ,  $70^\circ$ , and  $25^\circ$

\_\_\_\_\_ **no triangle** \_\_\_\_\_

**4** A triangle with one side length of 6 centimeters and two side lengths of 3 centimeters

\_\_\_\_\_ **no triangle** \_\_\_\_\_

**5** A triangle with angle measures of  $120^\circ$ ,  $45^\circ$ , and  $15^\circ$

\_\_\_\_\_ **more than one triangle** \_\_\_\_\_

**6** A triangle with side lengths of 3 centimeters, 2 centimeters, and 7 centimeters

\_\_\_\_\_ **no triangle** \_\_\_\_\_

**7** A triangle with one angle measure of  $55^\circ$  and two side lengths of 4 centimeters

\_\_\_\_\_ **more than one triangle** \_\_\_\_\_

**8** A triangle with side lengths of 4 centimeters and 6 centimeters that form a  $30^\circ$  angle

\_\_\_\_\_ **one triangle** \_\_\_\_\_

**9** A triangle with one side length of 7 centimeters with angles at each end measuring  $25^\circ$  and  $45^\circ$

\_\_\_\_\_ **one triangle** \_\_\_\_\_

**10** A triangle with two side lengths of 5 centimeters that form a  $120^\circ$  angle

\_\_\_\_\_ **one triangle** \_\_\_\_\_