Unit 7 Lesson 6: Building Polygons (Part 1)

1 True or False: Signed Numbers (Warm up)

Student Task Statement

Decide whether each equation is true or false. Be prepared to explain your reasoning.

$4 \cdot (-6) = (-6) + (-6) + (-6) + (-6)$

$-8 \cdot 4 = (-8 \cdot 3) + 4$

$6 \cdot (-7) = 7 \cdot (-7) + 7$

$-10 - 6 = -10 - (-6)$

2 What Can You Build?

Student Task Statement

Your teacher will give you some strips of different lengths and fasteners you can use to attach the corners.

1. Use the pieces to build several polygons, including at least one triangle and one quadrilateral.
2. After you finish building several polygons, select one triangle and one quadrilateral that you have made.
    a. Measure all the angles in the two shapes you selected.
    b. Using these measurements along with the side lengths as marked, draw your triangle and quadrilateral as accurately as possible.

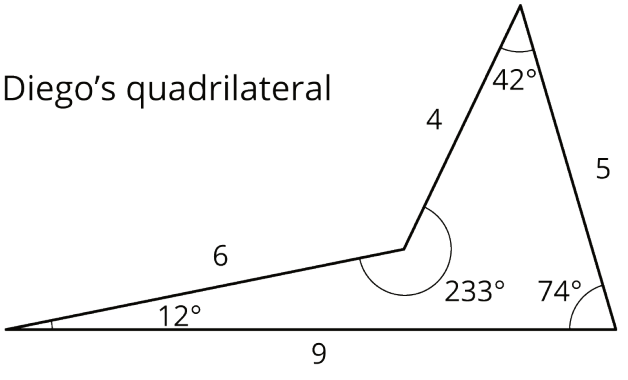
3 Building Diego's and Jada's Shapes

Student Task Statement

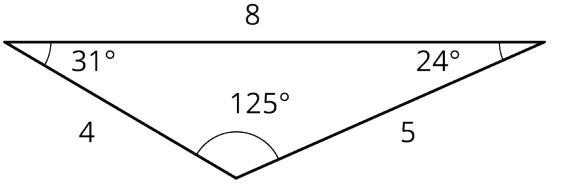
1. Diego built a quadrilateral using side lengths of 4 in, 5 in, 6 in, and 9 in.
    a. Build such a shape.
    b. Is your shape an identical copy of Diego's shape? Explain your reasoning.
2. Jada built a triangle using side lengths of 4 in, 5 in, and 8 in.
    a. Build such a shape.
    b. Is your shape an identical copy of Jada's shape? Explain your reasoning.

Activity Synthesis

Diego's quadrilateral



Jada's triangle



4 Building Han’s Shape (Optional)

Student Task Statement

Han built a polygon using side lengths of 3 in, 4 in, and 9 in.

1. Build such a shape.
2. What do you notice?