



## Objective 10 TEKS 8.16.B Review

### 8.16.B Validate his/her conclusions using mathematical properties and relationships.

You can use properties and theorems to justify your conclusions.

#### Arithmetic and Algebra

Properties of addition, multiplication, identity, and inverse relations

#### Geometry

Definitions and theorems about lines, angles, triangles, and quadrilaterals

**EXAMPLE** Jason is evaluating the expression below. Which properties justify Steps 2–5?

Evaluate  $\frac{1}{6} + \frac{1}{4} + \frac{2}{3}\left(-\frac{1}{4}\right)$

**Step 1**  $\frac{1}{6} + \frac{1}{4} - \frac{1}{6}$       Multiply  $\frac{2}{3}\left(-\frac{1}{4}\right) = -\frac{2}{12} = -\frac{1}{6}$

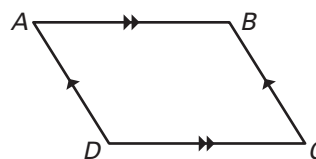
**Step 2**  $\frac{1}{6} + \left(-\frac{1}{6}\right) + \frac{1}{4}$       Commutative property of addition

**Step 3**  $\left[\frac{1}{6} + \left(-\frac{1}{6}\right)\right] + \frac{1}{4}$       Associative property of addition

**Step 4**  $0 + \frac{1}{4}$       Inverse property of addition

**Step 5**  $\frac{1}{4}$       Identity property of addition

**YOU DO IT** Jenny drew parallelogram  $EFGH$  similar to parallelogram  $ABCD$ . Which conclusions are valid?



**Conclusion:**  $\angle A$  corresponds to  $\angle E$ . The angles are congruent.

Valid     Not Valid    **Corresponding angles in**

**Reasoning:** **similar figures have the same measure** \_\_\_\_\_.

**Conclusion:**  $\overline{AB}$  corresponds to  $\overline{EF}$ . The side lengths are congruent.

Valid     Not Valid    **Corresponding side lengths in similar**

**Reasoning:** **figures are proportional. They may be congruent, but they do not have to be** \_\_\_\_\_.

**Conclusion:** All of the angles in each parallelogram are congruent.

Valid     Not Valid    **Since the angles are not right angles,**

**Reasoning:** **all of the angles cannot be congruent** \_\_\_\_\_.