

# 2-6 Skills Practice

## Algebraic Proof

State the property that justifies each statement.

1. If  $80 = m\angle A$ , then  $m\angle A = 80$ .
2. If  $RS = TU$  and  $TU = YP$ , then  $RS = YP$ .
3. If  $7x = 28$ , then  $x = 4$ .
4. If  $VR + TY = EN + TY$ , then  $VR = EN$ .
5. If  $m\angle 1 = 30$  and  $m\angle 1 = m\angle 2$ , then  $m\angle 2 = 30$ .

Complete the following proof.

**6. Given:**  $8x - 5 = 2x + 1$

**Prove:**  $x = 1$

**Proof:**

Statements	Reasons
a. $8x - 5 = 2x + 1$	a. _____
b. $8x - 5 - 2x = 2x + 1 - 2x$	b. _____
c. _____	c. Substitution Property
d. _____	d. Addition Property
e. $6x = 6$	e. _____
f. $\frac{6x}{6} = \frac{6}{6}$	f. _____
g. _____	g. _____

Write a two-column proof to verify the conjecture.

7. If  $\overline{PQ} \cong \overline{QS}$  and  $\overline{QS} \cong \overline{ST}$  then  $PQ = ST$ .

