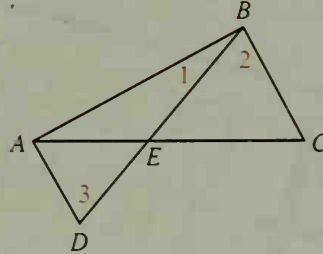


Name or state the postulate, definition, or theorem that justifies each statement about the diagram.

27.  $\angle AED \cong \angle BEC$
28.  $AE + EC = AC$
29.  $m\angle 1 + m\angle 2 = m\angle ABC$
30. If  $\angle 2 \cong \angle 3$ , then  $\overline{AD} \parallel \overline{BC}$ .
31.  $m\angle AEB = m\angle 2 + m\angle C$
32. If  $\overline{DA} \perp \overline{AB}$ , then  $m\angle DAB = 90$ .
33.  $m\angle 1 + m\angle 3 + m\angle DAB = 180$
34. If  $\angle ABC$  is a right angle, then  $\overline{AB} \perp \overline{BC}$ .

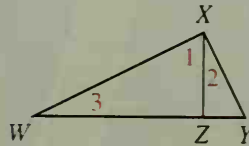


Complete.

35. The endpoint of  $\overrightarrow{XY}$  is point  $\underline{\hspace{1cm}}$ .
36. If the sum of the measures of two angles is 180, then the angles are  $\underline{\hspace{1cm}}$ .
37. If the measure of each interior angle of a regular polygon is 108, then the polygon is a(n)  $\underline{\hspace{1cm}}$ .
38. If  $M$  is the midpoint of  $\overline{AB}$  and  $AM = 12$ , then  $AB = \underline{\hspace{1cm}}$ .
39. If two parallel lines are cut by a transversal, then alternate interior angles are  $\underline{\hspace{1cm}}$ .
40. The process of forming a conclusion based on past observations or patterns is called  $\underline{\hspace{1cm}}$  reasoning.
41. When a statement and its converse are both true, they can be combined into one statement called a  $\underline{\hspace{1cm}}$ .
42. In a decagon the sum of the measures of the exterior angles is  $\underline{\hspace{1cm}}$ .
43. In an octagon the sum of the measures of the interior angles is  $\underline{\hspace{1cm}}$ .
44. Every triangle has at least two  $\underline{\hspace{1cm}}$  angles.

Write a two column proof.

- B** 45. Given:  $\overline{WX} \perp \overline{XY}$ ;  
 $\angle 1$  is comp. to  $\angle 3$ .  
 Prove:  $\angle 2 \cong \angle 3$



46. Given:  $\overline{RU} \parallel \overline{ST}$ ;  $\angle R \cong \angle T$   
 Prove:  $\overline{RS} \parallel \overline{UT}$

