

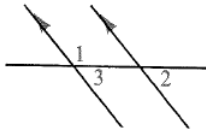
# Sheet 373: Chapter 3 Test

Complete each statement with the word *always*, *sometimes*, or *never*.

- Two lines that have no points in common are ? parallel.
- If a line is perpendicular to one of two parallel lines, then it is ? perpendicular to the other one.
- If two lines are cut by a transversal and same-side interior angles are complementary, then the lines are ? parallel.
- An obtuse triangle is ? a right triangle.
- In  $\triangle ABC$ , if  $\overline{AB} \perp \overline{BC}$ , then  $\overline{AC}$  is ? perpendicular to  $\overline{BC}$ .
- As the number of sides of a regular polygon increases, the measure of each exterior angle ? decreases.

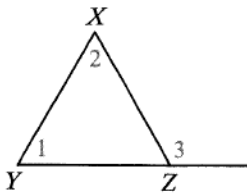
Find the value of  $x$ .

- $m\angle 1 = 3x - 20$ ,  $m\angle 2 = x$
- $m\angle 2 = 2x + 12$ ,  $m\angle 3 = 4(x - 7)$

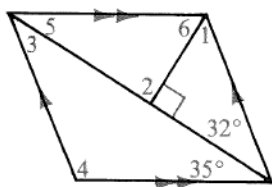


Find the measures of the numbered angles.

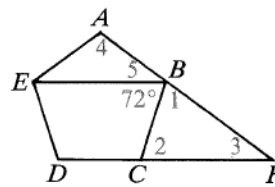
9.  $XYZ$  is regular.



10.



11.  $ABCDE$  is regular.



12. In the diagram for Exercise 11, explain why  $\overline{EB}$  and  $\overline{DF}$  must be parallel.

13. Given:  $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$ ;  $\overleftrightarrow{BF}$  bisects  $\angle ABE$ ;  
 $\overleftrightarrow{DG}$  bisects  $\angle CDB$ .  
 Prove:  $\overleftrightarrow{BF} \parallel \overleftrightarrow{DG}$

