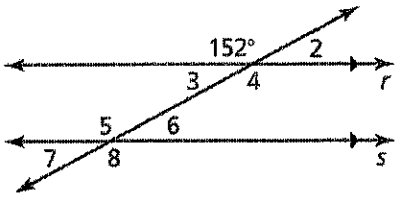
Name KEY Date

Chapter 3 & 12 Review

Use the figure to find the measure of the angle. Explain your reasoning.



1) $\angle 4 = 152^\circ$ (vertical angle to 152°)

2) $\angle 5 = 152^\circ$ (corresponds w/ 152° angle)

3) $\angle 8 = 152^\circ$ (vertical to $\angle 5$)

4) $\angle 6 = 28^\circ$ (supplementary to $\angle 5$ and/or $\angle 8$)

Find the measures of the missing interior angles.

5)

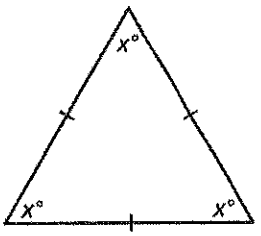
$154 + 13 + x = 180$

$167 + x = 180$

$-167 \quad -167$

$x = 13^\circ$

6)

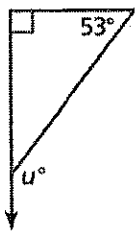


$\frac{3x}{3} = \frac{180}{3}$

$x = 60^\circ$

Find the measure of the exterior angle.

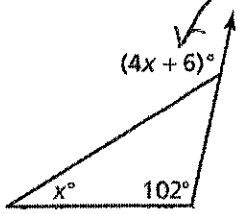
7)



$u = 90 + 53$

$u = 143^\circ$

8)



$4x + 6 = x + 102$

$-x \quad -x$

$3x + 6 = 102$

$-6 \quad -6$

$\frac{3x}{3} = \frac{96}{3}$

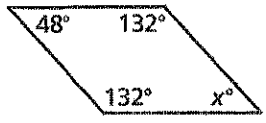
$x = 32^\circ$

$4(32) + 6 =$

$128 + 6 = 134^\circ$

Find the measures of the interior angles of the polygon.

9)



$2(132) + 48 + x = 360$

$312 + x = 360$

$-312 \quad -312$

$x = 48^\circ$

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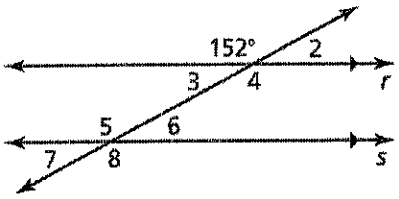

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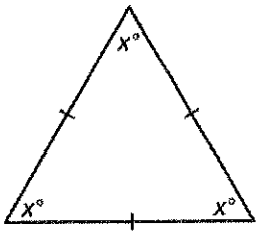

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Find the measure of the exterior angle.

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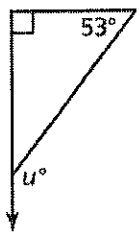

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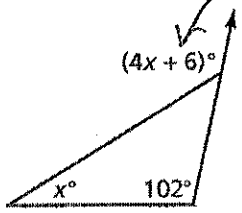

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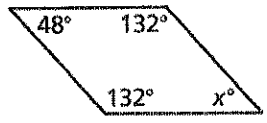

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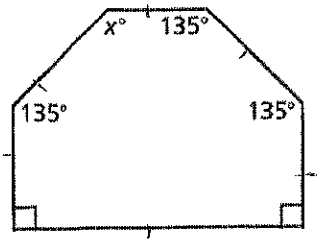
10) 

6 sides = 4Δ

4(180) = 720

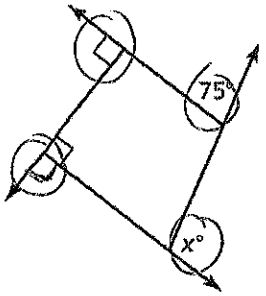
2(90) + 3(135) + x = 720

585 + x = 720

−585 −585

x = 135°

Find the measures of the missing exterior angles of the polygon.

11) 

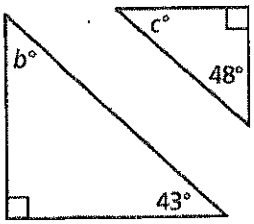
2(90) + 75 + x = 360

255 + x = 360

−255 −255

x = 105°

Tell whether the triangles are similar. Explain.

12) 

c + 90 + 48 = 180

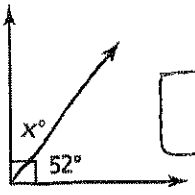
c + 138 = 180

−138 −138

c = 42°

not similar because the corresponding angles are not congruent

Tell whether the angles are *adjacent* or *vertical*. Then find the value of *x*.

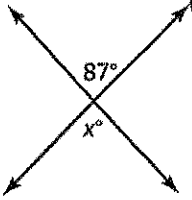
13) 

adjacent

x + 52 = 90

−52 −52

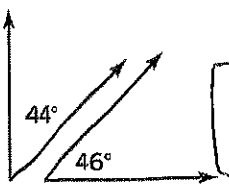
x = 38°

14) 

vertical angles

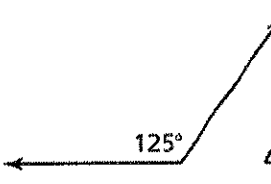
x = 87°

Tell whether the angles are *complementary*, *supplementary*, or *neither*.

15) 

44 + 46 = 90

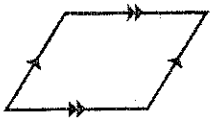
complementary

16) 

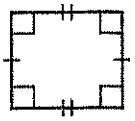
125 + 65 = 190

neither

Classify the quadrilateral.

17) 

parallelogram

18) 

rectangle

19) The scale on a map is 1 in. : 50 mi. The actual distance between two cities is 350 miles. What is the distance between the cities on the map?

$$\frac{1\text{ in}}{50\text{ mi}} = \frac{X}{350\text{ mi}}$$

$1 \cdot 350 = 50 \cdot X$

$350 = 50X$

$7 = X$

$X = 7$ in