

Name: \_\_\_\_\_

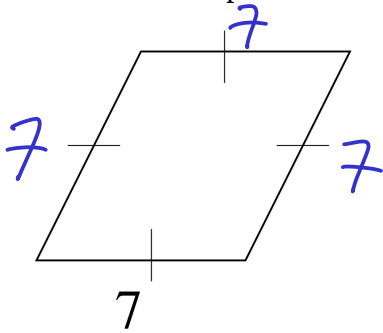
Date: \_\_\_\_\_ Period: \_\_\_\_\_

Geometry 1/2, Mr. Ferraro/Mr. Wong

### §1.4: Perimeter Problems

Perimeter is sum of the lengths of the sides of a polygon  
(distance around a shape)

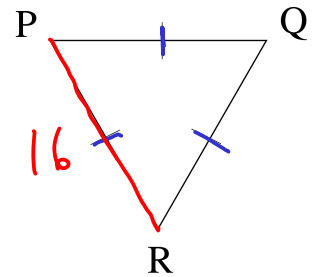
1. Determine the perimeter:



$$P = 7 + 7 + 7 + 7$$
$$P = 28$$

2. (a) What kind of triangle is PQR?  
(b) If the perimeter is 48, what is PR?

Equilateral  $\triangle$   
$$\begin{array}{r} 16 \\ 3 \overline{)48} \\ \underline{48} \\ 0 \end{array}$$

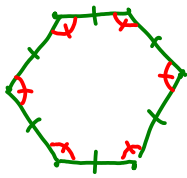


$$(b) PR = 16$$

3. A regular <sup>6</sup>hexagon has a perimeter of 48m.  
What is the length of each side?  
(First: What's a regular polygon?)

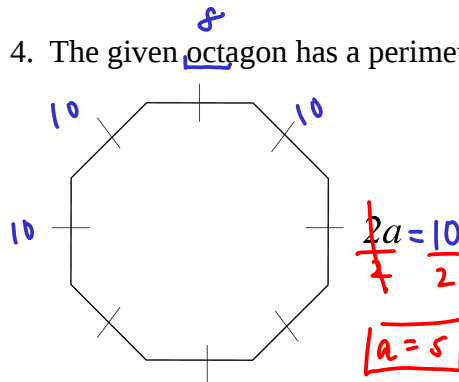
"perfect"  
(equilateral  
AND  
equiangular)

$$P = 48m$$



$$\frac{48m}{6} = \boxed{8m}$$

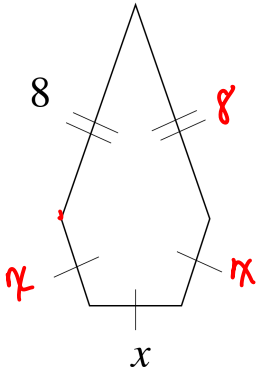
4. The given octagon <sup>8</sup> has a perimeter of 80. Find  $a$ .



$$\frac{2a = 10}{2} = \boxed{a = 5}$$

$$\therefore 8 = 10$$

5. The given polygon has a perimeter of 22. Find the value of  $x$ .



$P = 22$

$P = 8 + 8 + x + x + x$

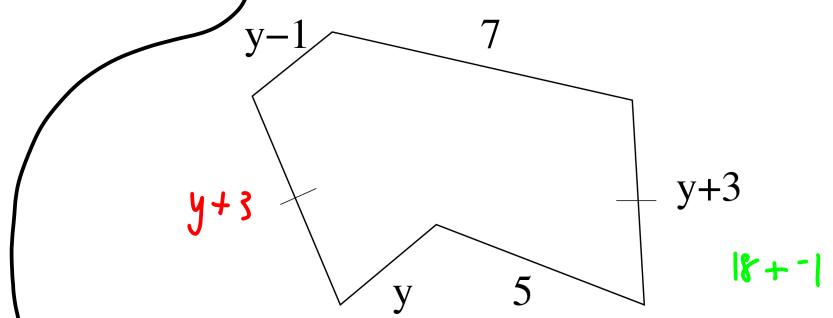
$P = 16 + 3x$

$22 = 16 + 3x$

$6 = 3x$

$2 = x$

6. The perimeter is 29. What is the value of  $y$ ?



$P = y+3 + y-1 + 7 + y+3 + y$

$P = 4y + 17$

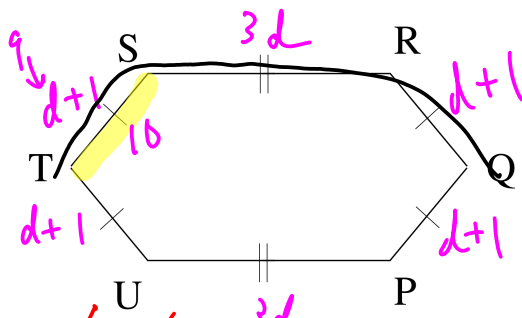
$29 = 4y + 17$

$12 = 4y$

$3 = y$

7. Given:  
 $PQ = d + 1$ ;  
 $RS = 3d$ ;  
 Perimeter is 94

Label the givens on the diagram!



Find ST.  
 10

$P = d+1 + 3d + d+1 + d+1 + 3d + d+1$

$P = 10d + 4$

$94 = 10d + 4$

$90 = 10d$

$9 = d$