Geometry BELL WORK

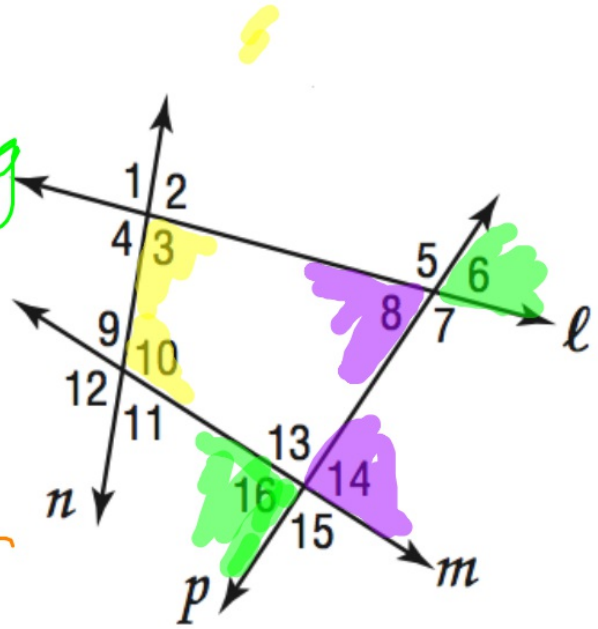
Classify the relationship between each pair of angles as *alternate interior*, *alternate exterior*, *corresponding*, or *consecutive interior* angles.

1) ∠2 and ∠10

corresponding

2) ∠9 and ∠13

corresponding



3) ∠3 and ∠10

consecutive interior

4) ∠7 and ∠13

alternate interior

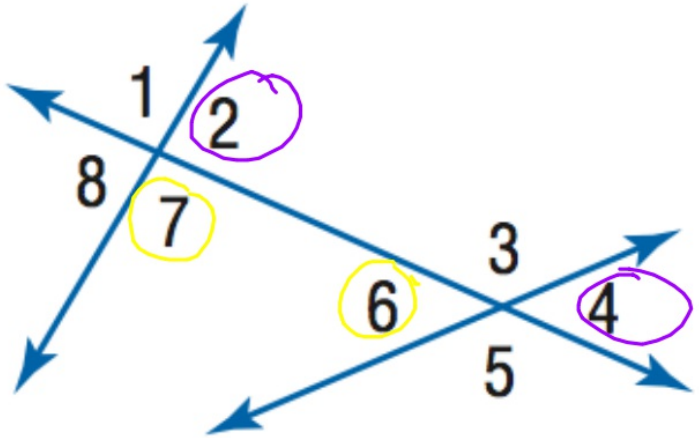
5) ∠6 and ∠16

alternate exterior

6) ∠8 and ∠14

alternate interior

Refer to the figure below. Classify the relationship between each pair of angles as *alternate interior*, *alternate exterior*, *corresponding*, or *consecutive interior* angles.



∠1 and ∠5

alt ext

∠6 and ∠7

Consecutive interior

∠2 and ∠4

corresponding

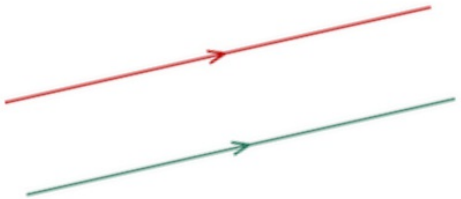
∠2 and ∠6

alternate interior

3.1 Parallel Lines and Transversals

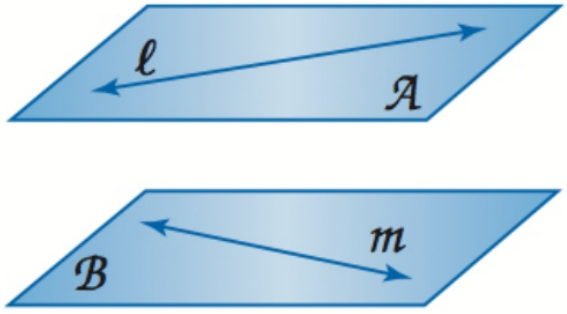
Relationships between lines and planes:

parallel lines: are coplanar, do not intersect



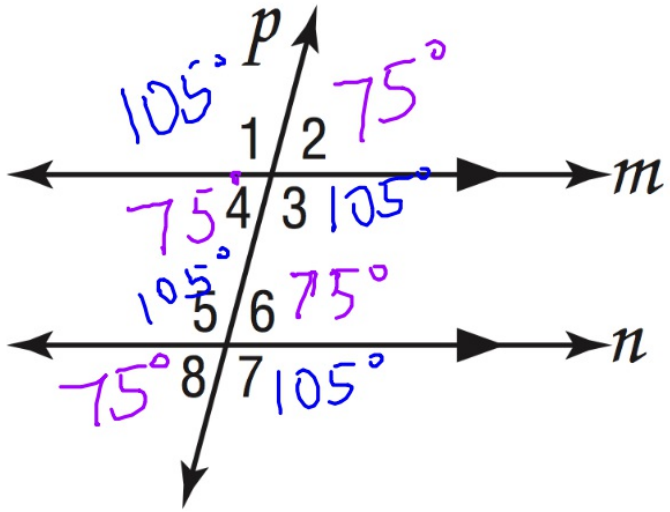
arrows are used to show that they're parallel

skew lines: are not coplanar, do not intesect



parallel planes: do not intersect

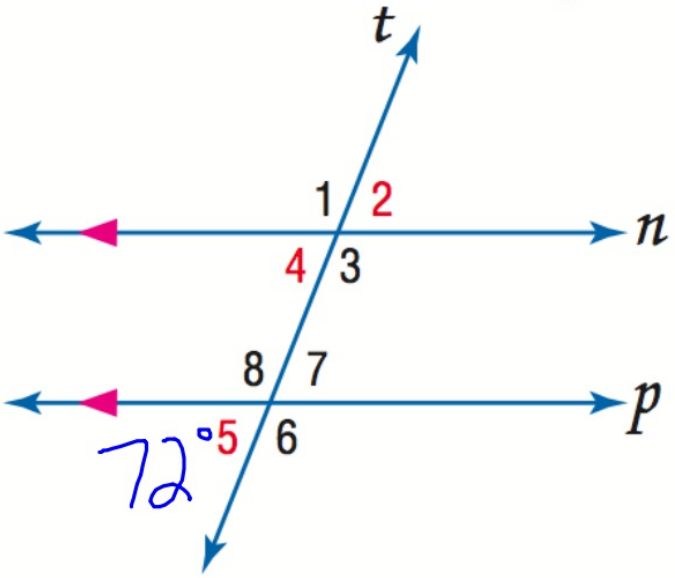
In the figure, $m\angle 2 = 75$. Find the measures of the remaining angles.



$$\begin{array}{r} 180 \\ -\ 75 \\ \hline 105^\circ \end{array}$$

In the figure, $m\angle 5 = 72$. Find the measure of each angle.

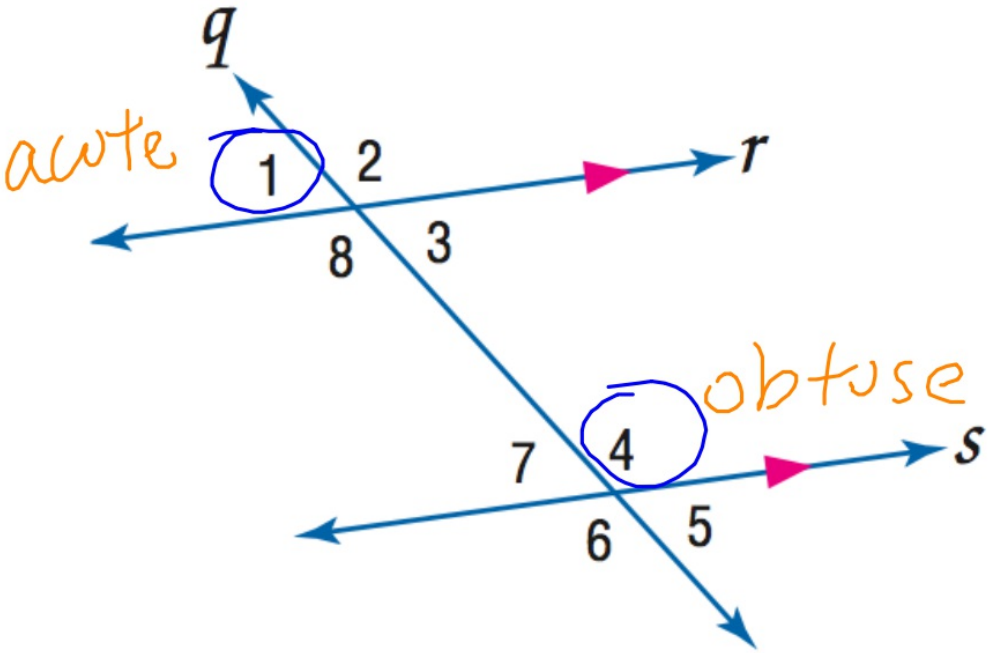
How do you know?



a. $\angle 4$ 72° corresponding

b. $\angle 2$ 72° alternate exterior

If $m\angle 4 = 2x - 17$ and $m\angle 1 = 85$, find x.



acute

obtuse

$m\angle 1 + m\angle 4 = 180$

$85 + 2x - 17 = 180$

$68 + 2x = 180$

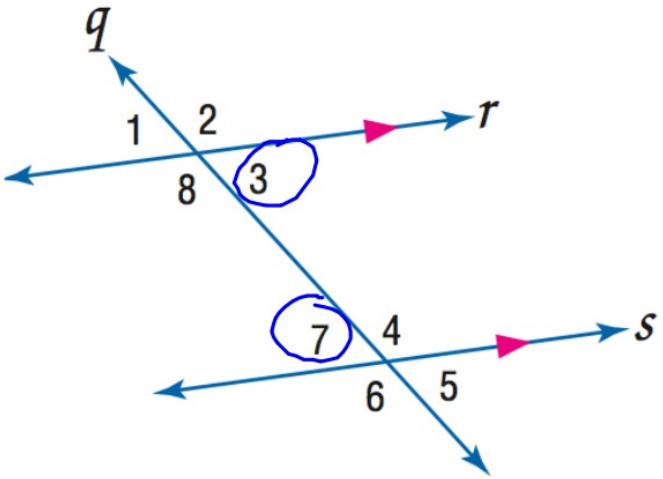
$-68 \qquad -68$

$2x = 112$

$\frac{2x}{2} = \frac{112}{2}$

$x = 56$

Find y if $m\angle 3 = 4y + 30$ and $m\angle 7 = 7y + 6$.



alt interior angles are congruent

$m\angle 3 = m\angle 7$

$4y + 30 = 7y + 6$

$-4y \qquad -4y$

$30 = 3y + 6$

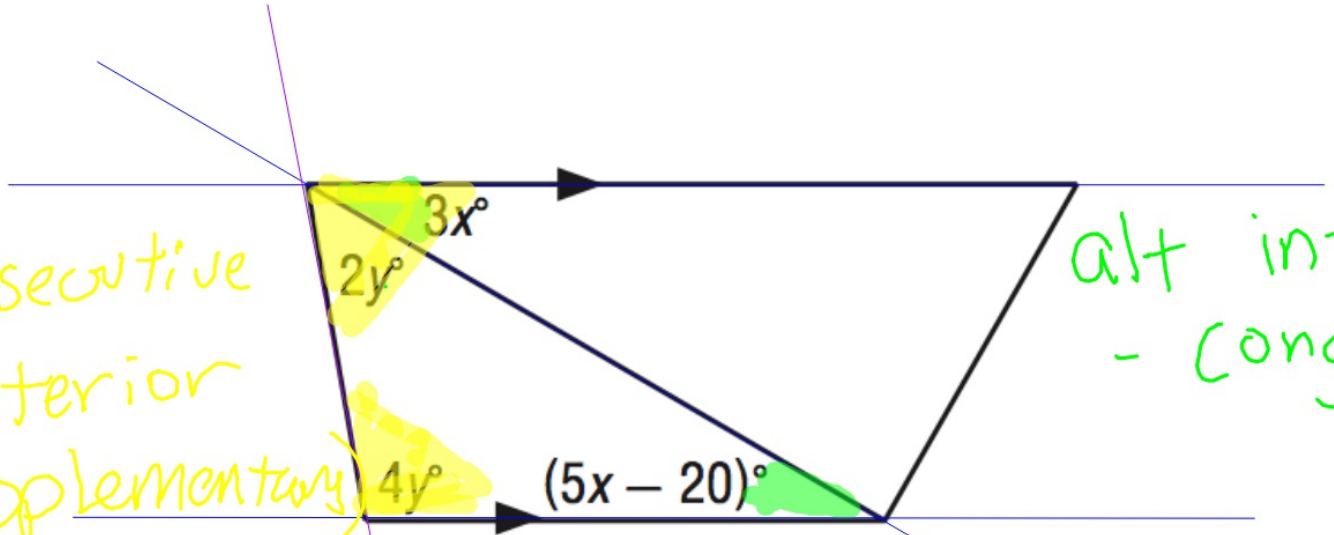
$-6 \qquad -6$

$24 = 3y$

$\frac{24}{3} = \frac{3y}{3}$

$y = 8$

Find the value of the variable(s) in each figure.



Consecutive interior (supplementary)

alt interior - congruent

$3x + 2y + 4y = 180$

$3(10) + 2y + 4y = 180$

$30 + 6y = 180$

$3x = 5x - 20$

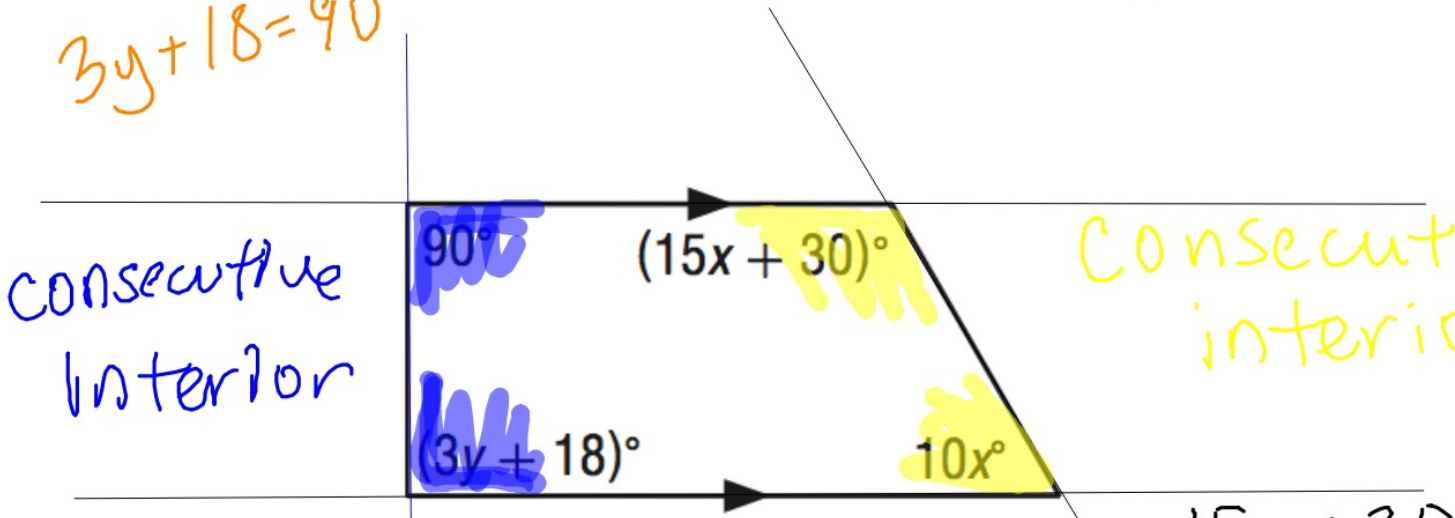
$-5x \quad -5x$

$\frac{-2x}{-2} = \frac{-20}{-2}$

$x = 10$

Find the value of the variable(s) in each figure.

$3y+18=90$



consecutive interior

Consecutive interior

$90+3y+18=180$

$3y+108=180$

$-108 \quad -108$

$\frac{3y}{3}=\frac{72}{3}$

$y=24$

$15x+30+10x=180$

$25x+30=180$

$-30 \quad -30$

$\frac{25x}{25}=\frac{150}{25}$

$x=6$

Assignment:

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Name
Per 7
Date

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