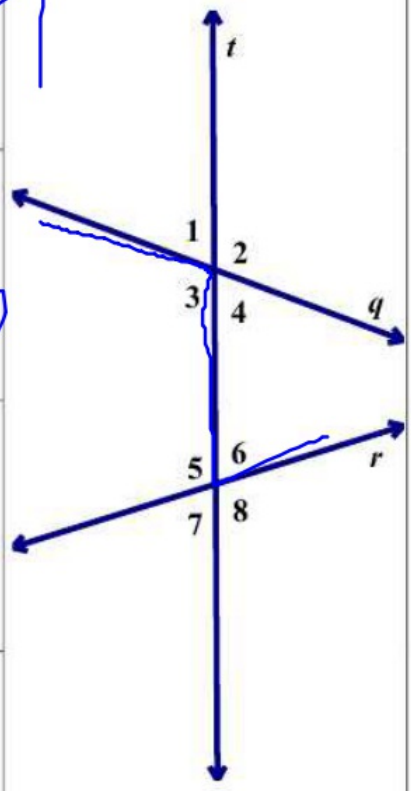
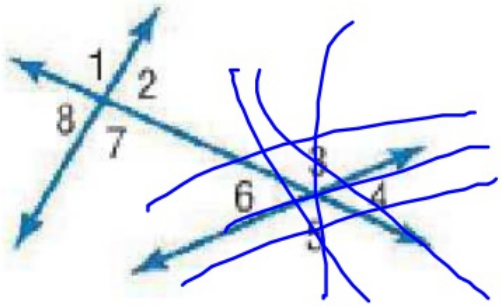
Notes 1-3

Int 2 Acc | **Parallel Lines & Transversals** | **Unit 1**

Vocabulary Words	Picture
Transversal: t intersects 2 lines	
Vertical Angles: $\angle 1 \cong \angle 4$ $\angle 6 \cong \angle 7$	
Consecutive Interior Angles: $\angle 3 \cong \angle 5$ $\angle 4 \cong \angle 6$	
Alternate Interior Angles: $\angle 3 \cong \angle 6$ $\angle 4 \cong \angle 5$	
Alternate Exterior Angles: $\angle 1 \cong \angle 8$ $\angle 2 \cong \angle 7$	
Corresponding Angles: $\angle 1 \cong \angle 5$ $\angle 7 \cong \angle 3$ $\angle 4 \cong \angle 8$ $\angle 2 \cong \angle 6$	

Ex. 1: Refer to the figure below. Classify the relationship between each pair of angles as *vertical, alternate interior, alternate exterior, corresponding,* or *consecutive interior* angles.



a) ∠ **1** and ∠ **5**

Alt. Ext.

b) ∠ **6** and ∠ **7**

Con. Int.

c) ∠ **2** and ∠ **4**

corresponding

d) ∠ **2** and ∠ **8**

Vertical

e) ∠ **3** and ∠ **7**

Alt. Int.

f) ∠ **5** and ∠ **7**

corresponding

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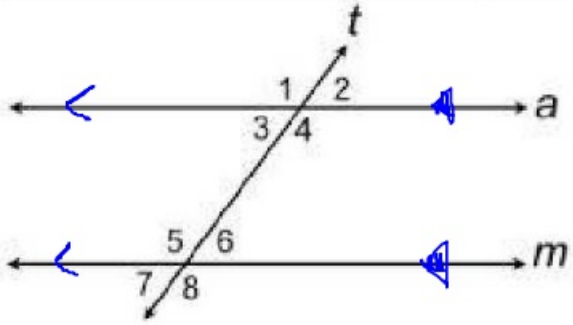
Parallel Lines

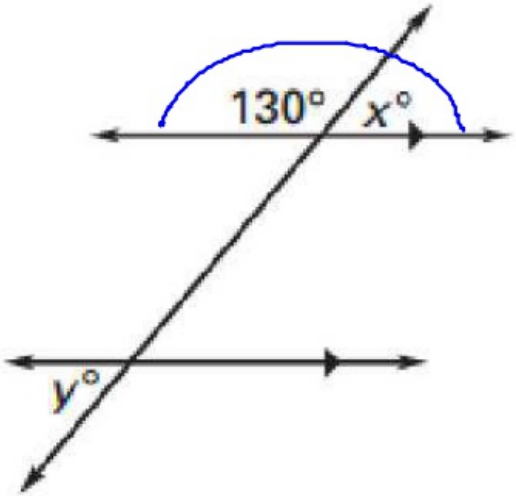


Congruent Angles $=$	Supplementary Angles $+180$
Vertical Alt. Int. Alt. Ext. Corresponding	Con. interior

Are any of these true for skew lines?

Vertical angles are always $\cong$.

Example 2: Solve for x and y.

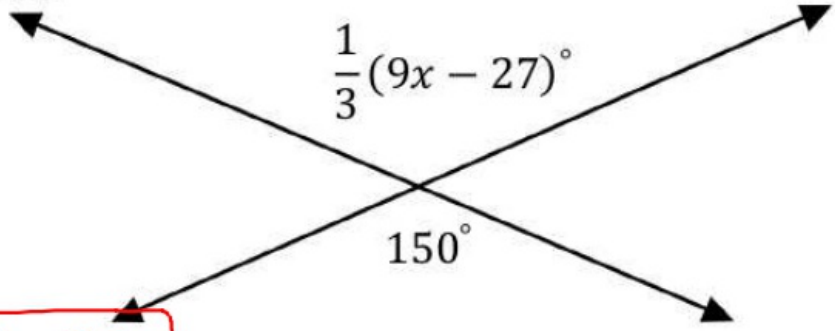


$130 + x = 180$
$-130 \quad -130$

$x = 50$

$y = 50$

Example 3: Solve for x.



$\frac{1}{3}(9x - 27) = 150$

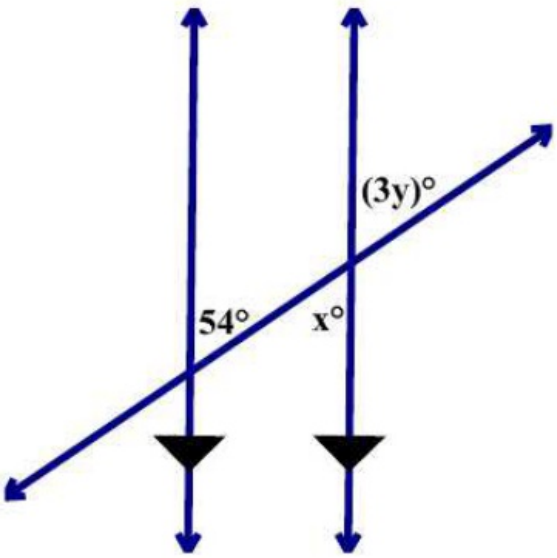
$3x - 9 = 150$
$+9 \quad +9$

$\frac{3x}{3} = \frac{159}{3}$

$x = 53$

Example 4: Solve for x and y.

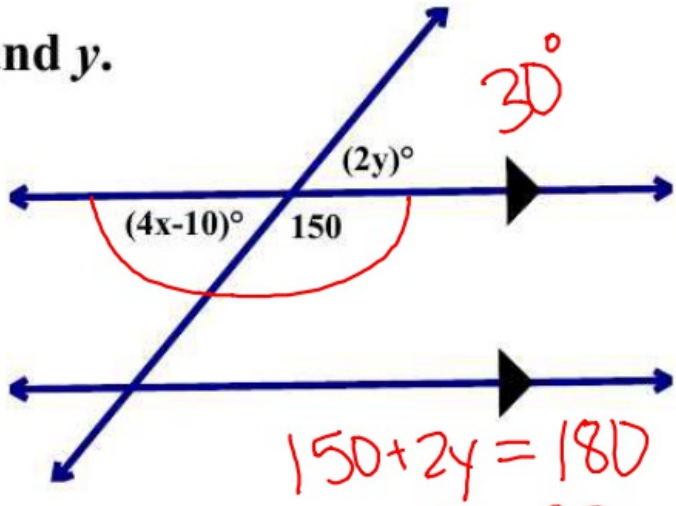
$x = 54$



$\frac{3y}{3} = \frac{54}{3}$

$y = 18$

Example 5: Solve for x and y.



$4x-10+150=180$
$-150 \quad -150$

$4x-10=30$
$+10 \quad +10$

$4x=40$

$\frac{4x}{4}=\frac{40}{4}$

$x=10$

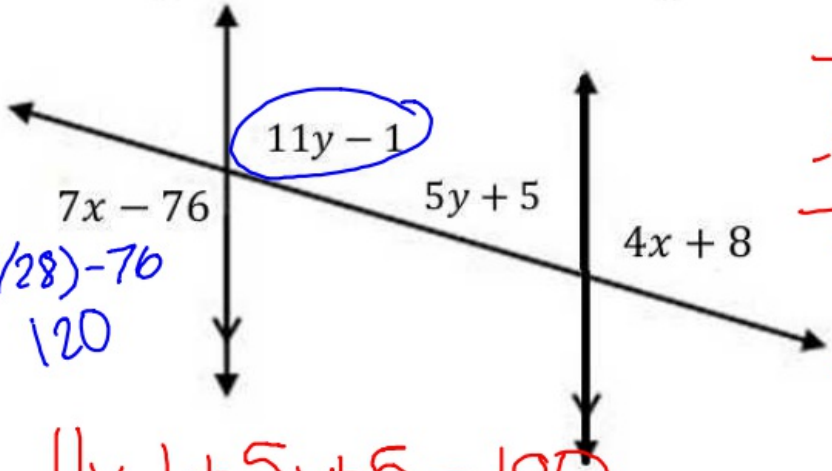
$150+2y=180$

$2y=30$

$\frac{2y}{2}=\frac{30}{2}$

$y=15$

Example 6: Solve for x and y.



$7x-76=4x+8$
$-4x \quad -4x$

$3x-76=8$
$+76 \quad +76$

$3x=84$

$\frac{3x}{3}=\frac{84}{3}$

$x=28$

$7(28)-76$
120

$11y-1+5y+5=180$

$16y+4=180$
$-4 \quad -4$

$16y=176$

$\frac{16y}{16}=\frac{176}{16}$

$y=11$

$11y-1=120$
$+1 \quad +1$

$11y=121$

$\frac{11y}{11}=\frac{121}{11}$

$y=11$