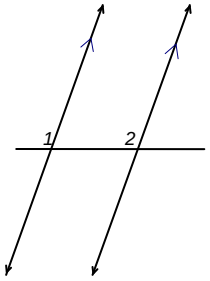
# Parallel Lines Cut By a Transversal

**~ 1 ~**

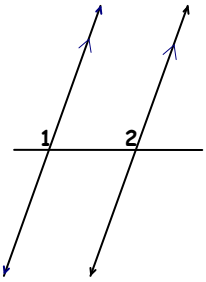
**1.** What is the relationship between $\angle 1$ and $\angle 2$?




A. Alternate Interior Angles
B. Alternate Exterior Angles
C. Corresponding Angles
D. Same-Side Interior Angles

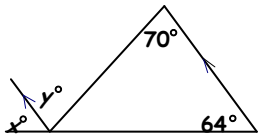
***Solve for the unknown angles. (2-6)***

**2.**



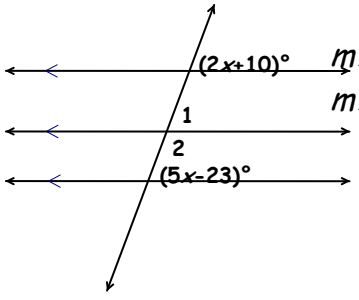

$m\angle 1 = 110°$
$m\angle 2 = ?$

**3.**



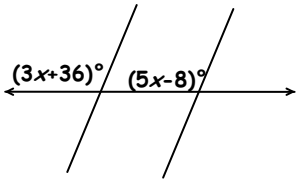

$x = ?$
$y = ?$

**4.**



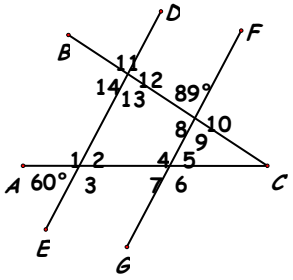

$m\angle 1 = ?$
$m\angle 2 = ?$

**5.**



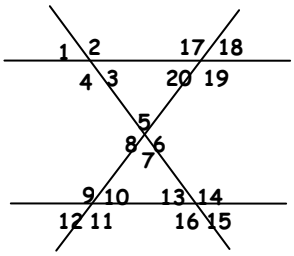

$x = ?$

**6.** $\overline{DE} \parallel \overline{FG}$




$m\angle 1 = ?$ $m\angle 8 = ?$
$m\angle 2 = ?$ $m\angle 9 = ?$
$m\angle 3 = ?$ $m\angle 10 = ?$
$m\angle 4 = ?$ $m\angle 11 = ?$
$m\angle 5 = ?$ $m\angle 12 = ?$
$m\angle 6 = ?$ $m\angle 13 = ?$
$m\angle 7 = ?$ $m\angle 14 = ?$

**7.**




$a \parallel b$ and $d$ and $c$ are transversals through $a$ and $b$, if $m\angle 1 = 43°$ and $m\angle 5 = 27°$ then what is $m\angle 12$?

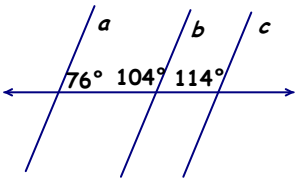
A. 43° B. 110°
C. 27° D. 153°

# Parallel Lines Cut By a Transversal

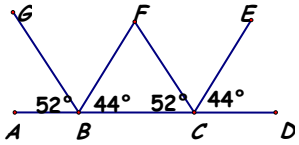
**~ 2 ~**

***Name any sets of parallel lines and which postulate or theorem proves them parallel. (8-9)***

**8.**

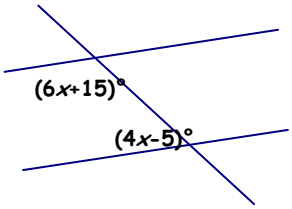



**9.**

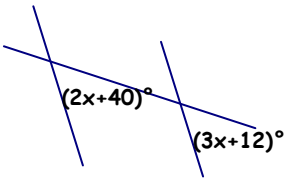



***What value of x would make the lines parallel? (10-11)***

**10.**

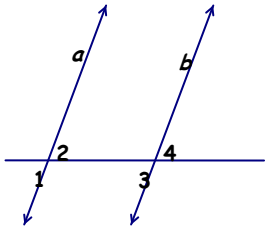



**11.**



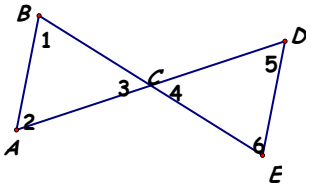

**12.** **Given:** $a \parallel b$

**Prove:** $\angle 1 \cong \angle 4$



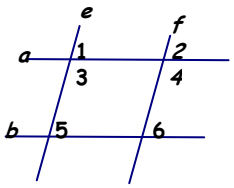

**13.** **Given:** $\overline{BA} \parallel \overline{DE}$, $\angle 2 \cong \angle 3$

**Prove:** $\angle 4 \cong \angle 5$




**14.** **Given:** $e \parallel f$, $\angle 4 \cong \angle 5$

**Prove:** $a \parallel b$



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**15.** **Given:** $\overline{DE} \parallel \overline{AG}$, $\angle 1 \cong \angle 3$, $\angle 2 \cong \angle 4$

**Prove:** $\overline{EC} \parallel \overline{GF}$