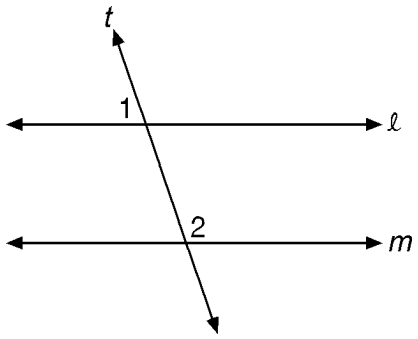
Name: _____

CC Geometry

Parallel Lines Cut by a Transversal

1) In the accompanying diagram, parallel lines ℓ and m are cut by transversal t.



Which statement about angles 1 and 2 must be true?

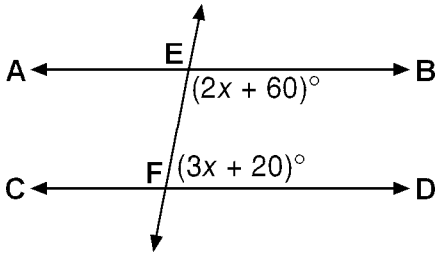
A) $\angle 1 \cong \angle 2$

B) $\angle 1$ is a complement to $\angle 2$

C) $\angle 1$ and $\angle 2$ are right angles

D) $\angle 1$ is a supplement to $\angle 2$

2) In the accompanying diagram, $\overleftrightarrow{AB}$ is parallel to $\overleftrightarrow{CD}$, and $\overleftrightarrow{EF}$ is a transversal.



If $m\angle BEF = (2x + 60)°$ and $m\angle DFE = (3x + 20)°$, what is $m\angle BEF$?

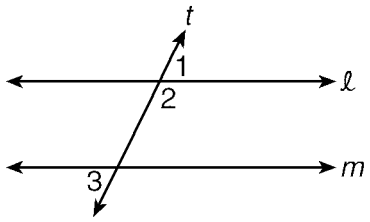
A) 100°

B) 40°

C) 20°

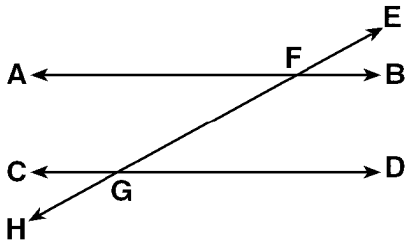
D) 140°

3) In the accompanying diagram, line ℓ is parallel to line m and line t is a transversal.



If $m\angle 1 = (2x + 20)°$ and $m\angle 2 = (4x + 10)°$, what is the number of degrees in $m\angle 3$?

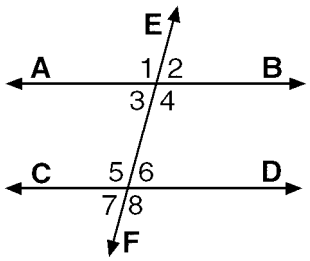
4) In the accompanying diagram, $\overleftrightarrow{AB}$ is parallel to $\overleftrightarrow{CD}$, and transversal $\overleftrightarrow{EH}$ intersects $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ at F and G, respectively.



If $m\angle AFG = (2x + 10)°$ and $m\angle FGD = (x + 20)°$, find the value of x.

Questions 5 and 6 refer to the following:

In the figure below, $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$.



5) If $m\angle 4 = (2x + 10)°$ and $m\angle 6 = (3x - 20)°$, find the value of x.

6) If $m\angle 2 = (3x + 15)°$ and $m\angle 6 = (5x - 5)°$, find the value of x.

1) D 2) A

3) 70°

4) 10

5) 38

6) 10