Name: _____

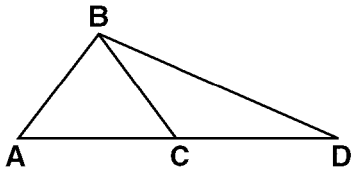
CC Geometry (H)

Unit 1 Test Review

1) In ΔQRS, $m\angle Q = x°$, $m\angle R = (8x - 40)°$, and $m\angle S = 2x°$. Which type of triangle is ΔQRS?

A) right
B) isosceles
C) acute
D) obtuse

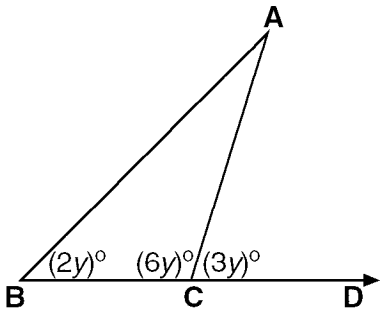
2) In the figure below, $\overline{AB} \cong \overline{BC}$.



If $m\angle BCD = 130°$, what is $m\angle ABC$?

A) 130°
B) 80°
C) 50°
D) 100°

3) In the accompanying diagram of ΔABC, side $\overline{BC}$ is extended to D, $m\angle B = 2y°$, $m\angle BCA = 6y°$, and $m\angle ACD = 3y°$.



What is $m\angle A$?

A) 15°
B) 17°
C) 24°
D) 20°

4) Two angles of a triangle have the measures of 55° and 65°. Which could not be a measure of an exterior angle of the triangle?

A) 120°
B) 115°
C) 130°
D) 125°

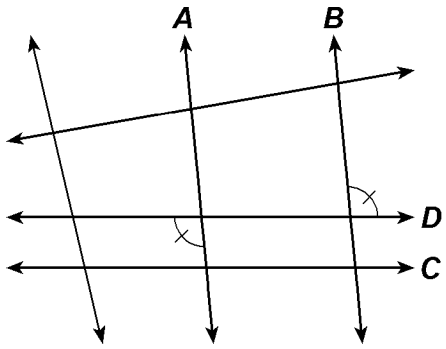
5) An exterior angle at the base of an isosceles triangle measures 140°. What is the measure of the vertex angle?

A) 70°
B) 100°
C) 40°
D) 140°

6) In isosceles triangle ABC, $\overline{AB} \cong \overline{BC}$ and $m\angle B = 50°$. What is the measure of an exterior angle at vertex C?

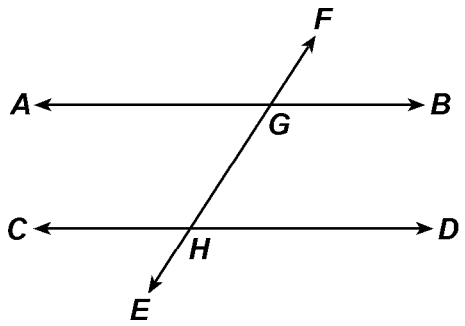
A) 115°
B) 130°
C) 65°
D) 50°

7) In the accompanying diagram, how is it possible to determine that lines *A* and *B* are parallel?



A) A pair of congruent corresponding angles is shown.
B) A pair of congruent alternate exterior angles is shown.
C) A pair of congruent alternate interior angles is shown.
D) A pair of congruent vertical angles is shown.

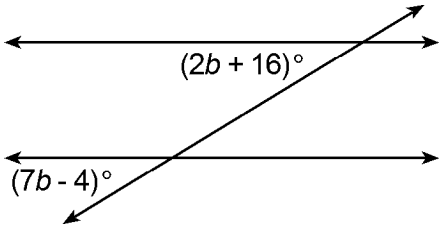
8) In the accompanying diagram, parallel lines $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ are cut by transversal $\overleftrightarrow{FE}$ at points G and H, respectively.



If $m\angle BGE = (2x + 25)°$ and $m\angle DHF = (3x - 50)°$, what is an equation that can be used to find the value of x?

A) $2x + 25 + 3x - 50 = 90$
B) $2(x + 25) = 3(x - 50)$
C) $2x + 25 = 3x - 50$
D) $2x + 25 + 3x - 50 = 180$

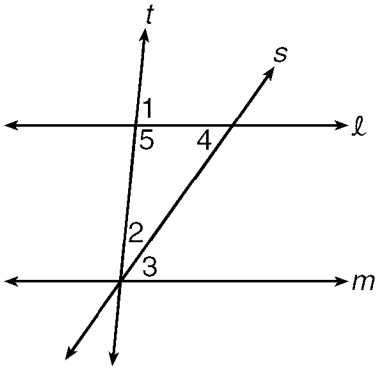
9) In the diagram below, two parallel lines are cut by a transversal.



What is the value of b?

A) 4
B) 9
C) 2
D) 40

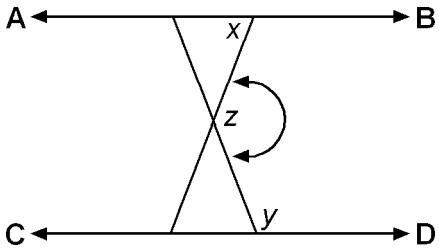
10) In the accompanying diagram, line ℓ is parallel to line m, and lines s and t are transversals that intersect at a point on line m.



Which statement must be true?

A) $m\angle 1 = m\angle 2 + m\angle 3$
B) $m\angle 4 = m\angle 2$
C) $m\angle 5 = m\angle 2 + m\angle 3$
D) $m\angle 1 = m\angle 4$

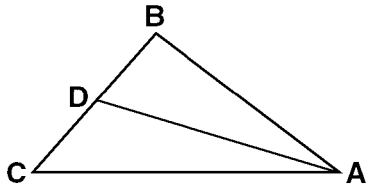
11) In the diagram below, $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$, $m\angle x = 68°$, and $m\angle y = 117°$.



What is $m\angle z$?

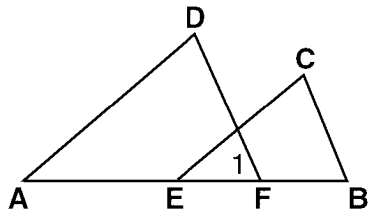
A) 112°
B) 117°
C) 131°
D) 49°

12) In ΔABC below, $\overline{AD}$ bisects $\angle BAC$.



If $m\angle C = 40°$ and $m\angle BAC = 30°$, find $m\angle ADC$.

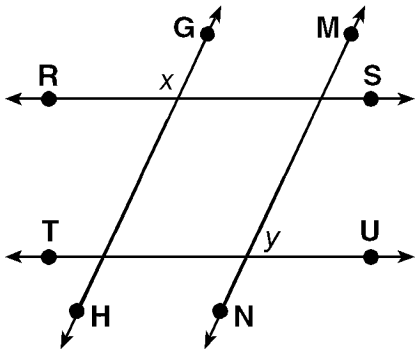
13) In the figure below, $\overline{AD} \parallel \overline{EC}$ and $\overline{DF} \parallel \overline{CB}$.



If $m\angle A = 35°$ and $m\angle 1 = 60°$, find $m\angle C$.

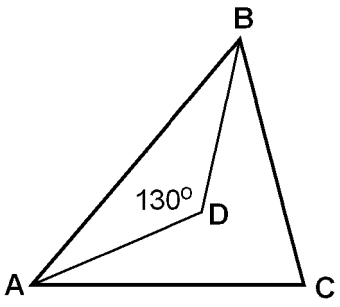
14) In ΔABC, $\overline{AC}$ is extended through C to D. If $m\angle BCD = (5x - 4)°$, $m\angle BAC = (x + 30)°$, and $m\angle ABC = (x + 20)°$, what is the value of x?

15) In the accompanying diagram, $\overleftrightarrow{RS} \parallel \overleftrightarrow{TU}$ and $\overleftrightarrow{GH} \parallel \overleftrightarrow{MN}$.



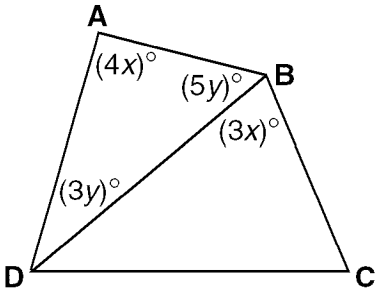
If $m\angle x = 115°$, find $m\angle y$.

16) In the accompanying diagram, the bisectors of $\angle A$ and $\angle B$ in acute triangle ABC meet at D, and $m\angle ADB = 130°$.

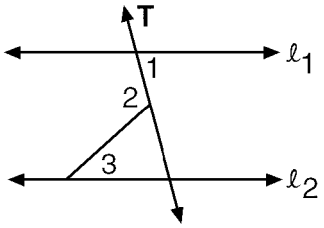


Find $m\angle C$.

17) In the figure below, $\overline{DB}$ bisects $\angle ADC$ and $\overline{DB} \cong \overline{DC}$. Find the values of x and y.

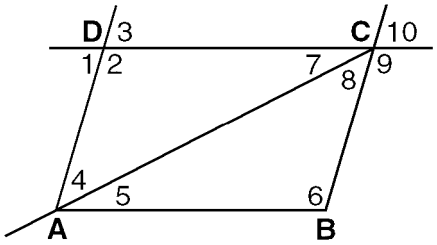


18) In the diagram below, $\ell_1 \parallel \ell_2$.



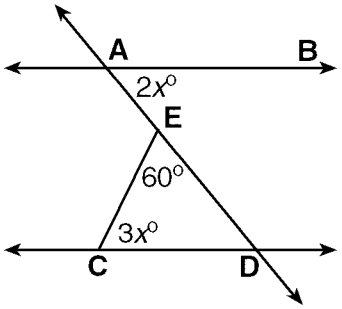
If $m\angle 3 = 35°$ and $m\angle 2 = 110°$, find $m\angle 1$.

19)



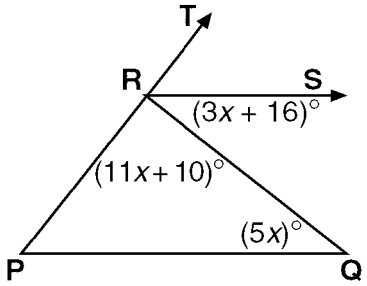
Name the segments, if any, that are parallel if $\angle 4 \cong \angle 8$.

20) In the accompanying diagram, $\overleftrightarrow{AB}$ is parallel to $\overleftrightarrow{CD}$, $\overline{AED}$ is a transversal, and $\overline{CE}$ is drawn.



If $m\angle CED = 60°$, $m\angle DAB = 2x°$, and $m\angle DCE = 3x°$, find x.

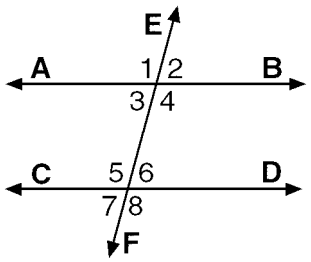
21) In the figure below, $\overrightarrow{RS} \parallel \overline{PQ}$.



Find the $m\angle PRQ$.

Questions 22 through 24 refer to the following:

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



22) If $m\angle 4 = (2x + 50)°$ and $m\angle 5 = (5x - 40)°$, find the value of x.

23) If $m\angle 3 = (7x + 1)°$ and $m\angle 7 = (5x + 19)°$, find the value of x.

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

1) D 2) B 3) D 4) C 5) B

6) A 7) B 8) D 9) A 10) A

11) C

12) 125°

13) 85°

14) 18

15) 65°

16) 80°

17) $x = 25, y = 10$

18) 75°

19) $\overline{AD} \parallel \overline{BC}$

20) 24

21) 98°

22) 30

23) 9

24) 86°