

Name: \_\_\_\_\_

CC Geometry (H)

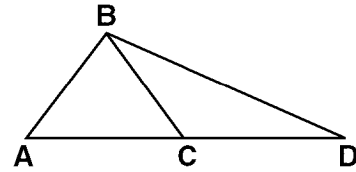
## Angles in Triangles Homework

Questions 1 and 2 refer to the following:

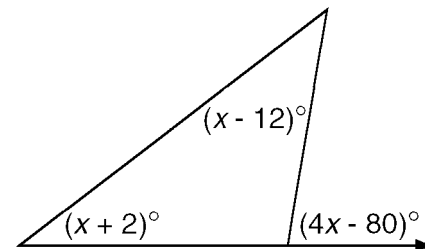
Given: In  $\triangle PQR$ ,  $\overline{PQ} \cong \overline{QR}$ .

- 1) If  $m\angle P = 40^\circ$ , what is  $m\angle Q$ ?
- A)  $70^\circ$                       C)  $20^\circ$   
 B)  $40^\circ$                       D)  $100^\circ$
- 2) If  $m\angle Q = 50^\circ$ , what is  $m\angle P$ ?
- A)  $130^\circ$                       C)  $25^\circ$   
 B)  $50^\circ$                       D)  $65^\circ$
- 3) If the measures of the three angles of a triangle are represented by  $x^\circ$ ,  $(2x - 20)^\circ$ , and  $(3x - 10)^\circ$ , then the triangle is
- A) isosceles                      C) equilateral  
 B) obtuse                      D) right

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

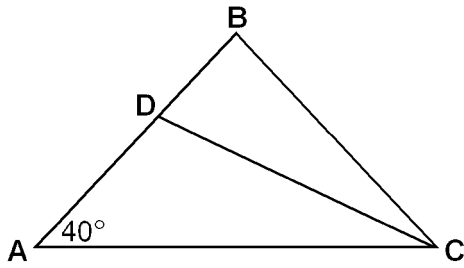
If  $m\angle ABC = 76^\circ$ , what is  $m\angle BCD$ ?

- A)  $104^\circ$                       C)  $52^\circ$   
 B)  $76^\circ$                       D)  $128^\circ$
- 5) Find the number of degrees in the value of  $x$ .



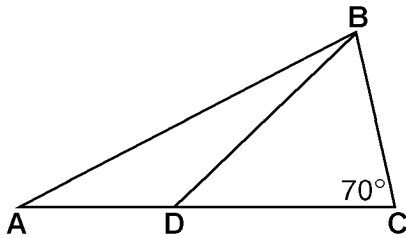
- 6) In
- $\triangle RST$
- ,
- $\overline{RS} \cong \overline{ST}$
- . If
- $m\angle R = (2x - 10)^\circ$
- and
- $m\angle S = x^\circ$
- , find the value of
- $x$
- .

- 7) In the accompanying figure,  $\overline{AB} \cong \overline{BC}$ ,  $m\angle A = 40^\circ$ , and  $\overline{CD}$  bisects  $\angle ACB$ .



Find  $m\angle CDB$ .

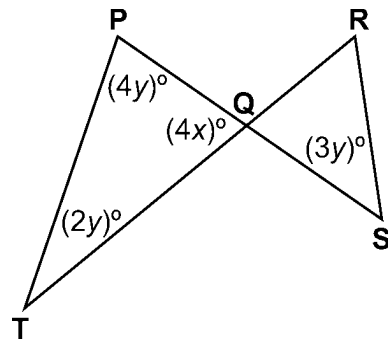
- 8) In the accompanying diagram of  $\triangle ABC$ ,  $\overline{BD}$  is drawn so that  $\overline{BD} \cong \overline{DC}$ .



If  $m\angle C = 70^\circ$ , find  $m\angle BDA$ .

- 9) In isosceles triangle  $ABC$ , base  $\overline{AC}$  is extended through  $C$  to  $D$  and  $m\angle BCD = 110^\circ$ . What is the measure of vertex angle  $B$ ?

- 10) In the figure below,  $\overline{SQ} \cong \overline{SR}$ . Find the value of  $x$  and  $y$ .



1) D    2) D    3) B    4) D

5)  $35^\circ$

6) 40

7)  $60^\circ$

8)  $140^\circ$

9)  $40^\circ$

10)  $x = 15, y = 20$