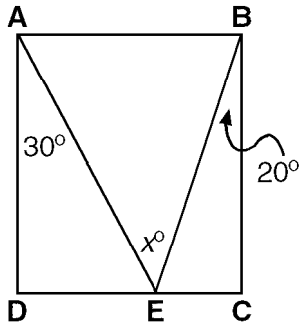


Name: \_\_\_\_\_  
 CC Geometry

### Rectangles

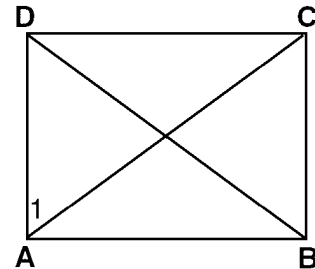
- 1) In the accompanying diagram,  $ABCD$  is a rectangle,  $E$  is a point on  $CD$ ,  $m\angle DAE = 30^\circ$ , and  $m\angle CBE = 20^\circ$ .



What is  $m\angle x$ ?

- A)  $50^\circ$                       C)  $60^\circ$   
 B)  $25^\circ$                       D)  $70^\circ$
- 2) In rectangle  $ABCD$ , diagonals  $\overline{AC}$  and  $\overline{BD}$  intersect at point  $E$ . If  $AE = 20$  and  $BD = 2x + 30$ , find  $x$ .

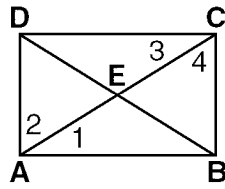
- 3) In rectangle  $ABCD$ ,  $\overline{AC}$  and  $\overline{BD}$  are diagonals.



If  $m\angle 1 = 55^\circ$ , find  $m\angle ABD$ .

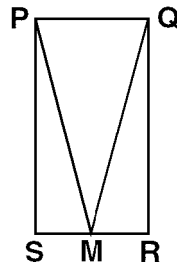
- 4) In rectangle  $ABCD$  with diagonals  $\overline{AC}$  and  $\overline{BD}$ ,  $AC = 3x - 15$  and  $BD = 7x - 55$ . Find  $x$ .

- 5) In the diagram below, ABCD is a rectangle with diagonals  $\overline{AC}$  and  $\overline{BD}$ .



If  $m\angle 1 = (3x + 14)^\circ$  and  $m\angle 4 = (2x - 9)^\circ$ , find the value of  $x$ .

6)



Given: PQRS is a rectangle  
 M is the midpoint of  $\overline{SR}$

Prove:  $\overline{PM} \cong \overline{MQ}$

- 1) A
- 2) 5
- 3)  $35^\circ$
- 4) 10
- 5) 17
- 6) Answer is a proof.