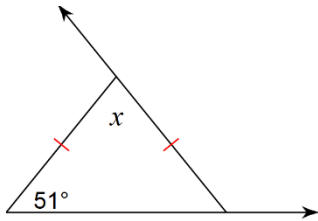


Section 8.2 Isosceles Triangle Proofs Worksheet

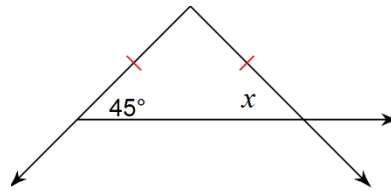
Name: \_\_\_\_\_ Hr: \_\_\_\_\_

Find the value of  $x$ .

1.

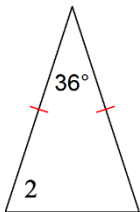


2.



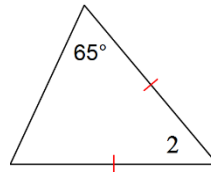
3.

$$m\angle 2 = 11x + 6$$



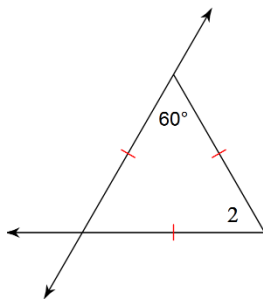
4.

$$m\angle 2 = x + 58$$

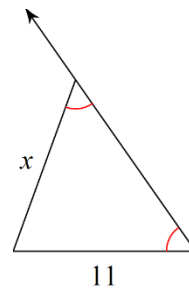


5.

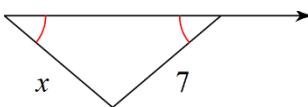
$$m\angle 2 = x + 71$$



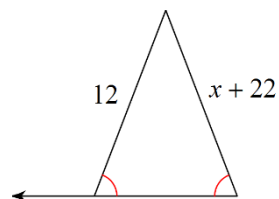
6.



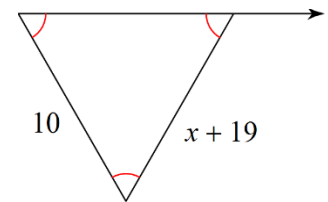
7.



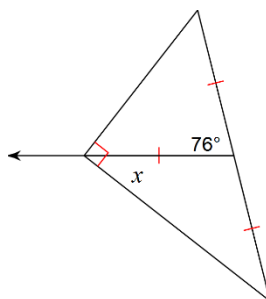
8.



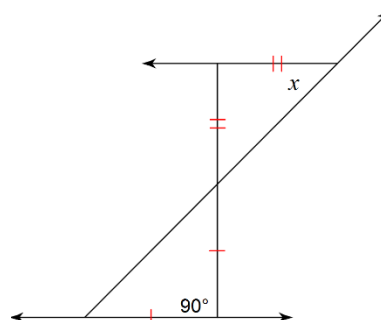
9.



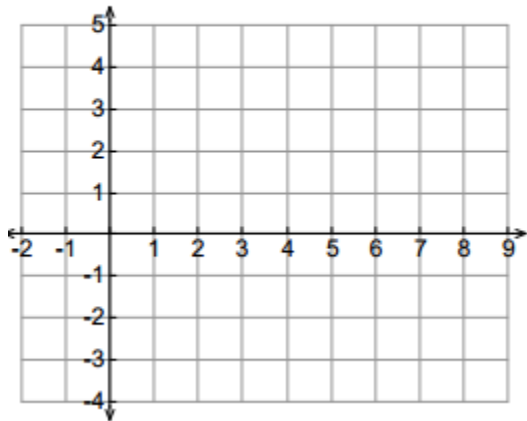
10.



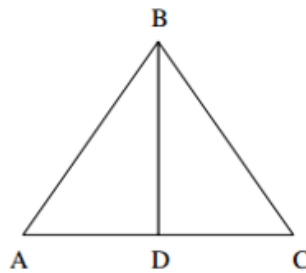
11.



12. Given:  $\triangle ABC$  has vertices A (7, -1), B (2, -2) and C (3, 3)  
 Prove:  $\triangle ABC$  is an isosceles triangle

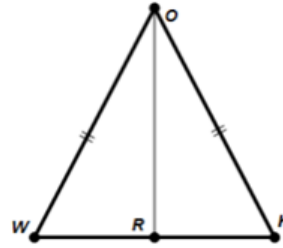


13. Given:  $\triangle ABC$  is isosceles  
 $\overline{BD}$  bisects  $\angle ABC$   
 Prove:  $\triangle ABD \cong \triangle CBD$



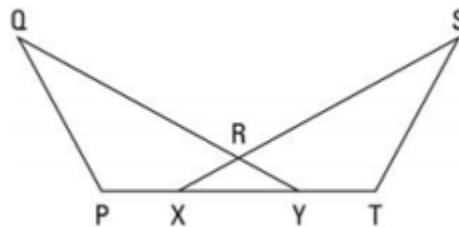
Statement	Reason
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.

14. Given:  $\triangle WOK$  is isosceles  
 $R$  is the midpoint of  $\overline{WK}$   
 Prove:  $\angle OWR \cong \angle OKR$



Statement	Reason
1. $\triangle WOK$ is isosceles	1.
2. $\overline{WO} \cong \overline{KO}$	2.
3. $R$ is the midpoint of $\overline{WK}$	3.
4. $\overline{WR} \cong \overline{KR}$	4.
5. $\overline{OR} \cong \overline{OR}$	5.
6. $\triangle WRO \cong \triangle KRO$	6.
7. $\angle OWR \cong \angle OKR$	7.

15. Given:  $\triangle XRY$  is isosceles  
 $\overline{PQ} \cong \overline{TS}$   
 $\angle Q \cong \angle S$   
 Prove:  $\overline{QY} \cong \overline{SX}$



Statement	Reason
1. $\triangle XRY$ is isosceles	1.
2. $\angle x \cong \angle y$	2.
3. $\overline{PQ} \cong \overline{TS}$	3.
4. $\angle Q \cong \angle S$	4.
5. $\triangle YQP \cong \triangle XST$	5.
6. $\overline{QY} \cong \overline{SX}$	6.