

3.2 Practice

Name _____

State the reason for each conclusion.

1. Given: $\angle 1 \cong \angle 2$
Prove: $m\angle 1 = m\angle 2$
2. Given: $\ell \perp n$
Prove: $m\angle 3$ is a right angle.
3. Given: $\angle 4$ and $\angle 5$ are vertical angles.
Prove: $\angle 4 \cong \angle 5$
4. Given: $\angle 5 \cong \angle 6$
Prove: $m\angle 6 \cong \angle 5$
5. Given: $\angle 3$ and $\angle 4$ are a linear pair.
Prove: $\angle 3$ and $\angle 4$ are supplementary.
6. Given: $\angle 6$ and $\angle 7$ are complementary.
Prove: $m\angle 6 + m\angle 7 = 90^\circ$
7. Given: X is the midpoint of \overline{MN} .
Prove: $\overline{MX} \cong \overline{NX}$
8. Given: \overrightarrow{AD} bisects $\angle BAC$.
Prove: $\angle BAD \cong \angle DAC$
9. Given: $\angle 8$ and $\angle 9$ are supplementary.
Prove: $m\angle 8 + m\angle 9 = 180^\circ$

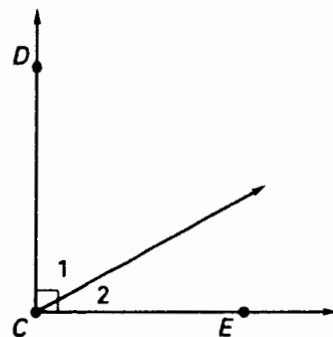
Complete the proof.

Given: $\overrightarrow{CD} \perp \overrightarrow{CE}$

Prove: $\angle 1$ and $\angle 2$ are complementary.

Statements

1. _____
2. $\angle DCE$ is a right angle.
3. $m\angle DCE = 90^\circ$
4. $m\angle DCE = m\angle 1 + m\angle 2$
5. $m\angle 1 + m\angle 2 = 90^\circ$
6. _____

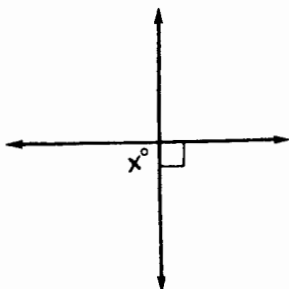


Reasons

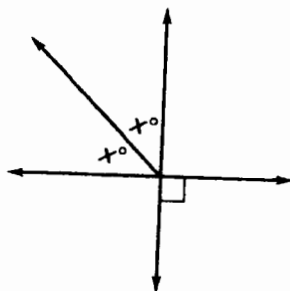
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Find the value of x .

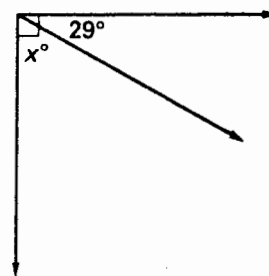
1.



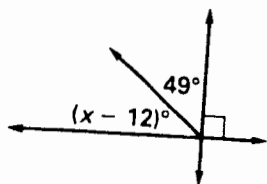
2.



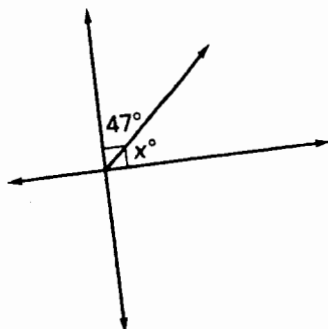
3.



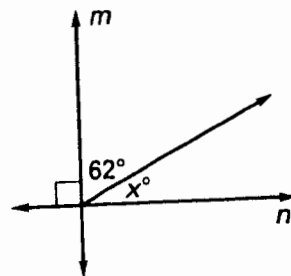
4.



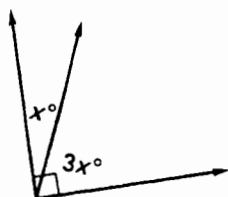
5.



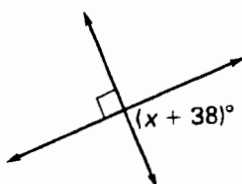
6.



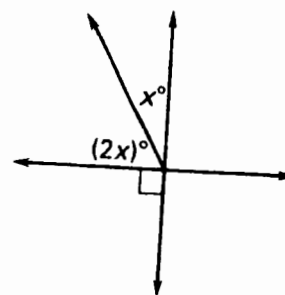
7.



8.



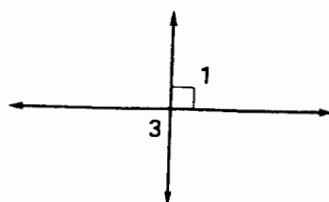
9.



Complete the proof of Theorem 3.3.

Given: $\angle 1$ is a right angle.

Prove: $\angle 3$ is a right angle.



Statements

1. _____

2. $m\angle 1 = 90^\circ$

3. $\angle 1 \cong \angle 3$

4. $m\angle 1 = m\angle 3$

5. $90^\circ = m\angle 3$

6. _____

Reasons

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____