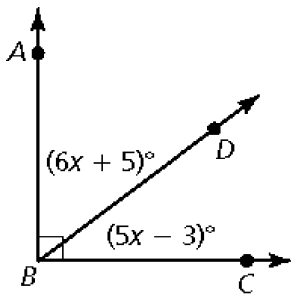


Segment and Angle proofs**Name the property that the statement illustrates.**

- _____ 1. $\angle EFG \cong \angle EFG$
- Transitive Property of Angle Congruence
 - Reflexive Property of Angle Congruence
 - Symmetric Property of Angle Congruence
- _____ 2. If $\overline{EP} \cong \overline{BE}$, then $\overline{BE} \cong \overline{EP}$.
- Reflexive Property of Segment Congruence
 - Symmetric Property of Segment Congruence
 - Transitive Property of Segment Congruence

Identify the numbered statement or reason in the two-column proof.**Given** $\angle ABC$ is a right angle.**Prove** $x = 8$ 

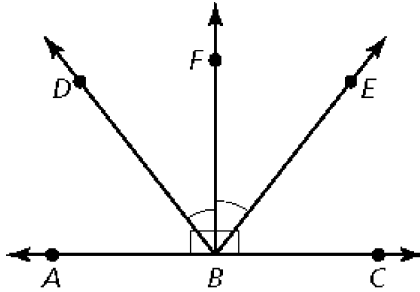
STATEMENTS	REASONS
1. $\angle ABC$ is a right angle.	1. Given
2. $m\angle ABC = 90^\circ$	2.
3.	3. Angle Addition Postulate
4. $(6x + 5)^\circ + (5x - 3)^\circ = 90^\circ$	4. Substitution Property of Equality
5. $11x + 2 = 90$	5. Simplify.
6.	6. Subtraction Property of Equality
7. $x = 8$	7.

- _____ 3. What is Reason 2?
- Given
 - Definition of a right angle
 - Definition of complementary angles
 - Angle Addition Postulate
- _____ 4. What is Statement 6?
- $9x = 90$
 - $11x = 92$
 - $11x = 88$
 - $11x - 2 = 90$

Identify the numbered statement or reason in the two-column proof.

Given $m\angle ABF = 90^\circ$, $m\angle CBF = 90^\circ$, $m\angle DBF = m\angle EBF$

Prove $m\angle ABD = m\angle CBE$



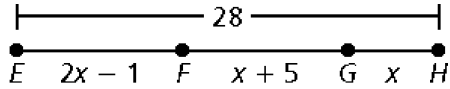
STATEMENTS	REASONS
1. $m\angle ABF = 90^\circ$, $m\angle CBF = 90^\circ$, $m\angle DBF = m\angle EBF$	1. Given
2. $m\angle ABF = m\angle CBF$	2.
3. $m\angle ABF = m\angle ABD + m\angle DBF$ $m\angle CBF = m\angle CBE + m\angle EBF$	3.
4.	4. Transitive Property of Equality
5. $m\angle ABD + m\angle EBF = m\angle CBE + m\angle EBF$	5.
6. $m\angle ABD = m\angle CBE$	6. Subtraction Property of Equality

- _____ 5. What is Reason 2?
- a. Reflexive Property of Equality
 - b. Symmetric Property of Equality
 - c. Subtraction Property of Equality
 - d. Transitive Property of Equality
- _____ 6. What is Statement 4?
- a. $m\angle ABF = m\angle CBE + \angle EBF$
 - b. $m\angle ABF = m\angle ABF$
 - c. $m\angle CBF = m\angle ABD + \angle DBF$
 - d. $m\angle ABD + m\angle DBF = m\angle CBE + \angle EBF$

Identify the numbered statement or reason in the two-column proof.

Given $EH = 28$, $EF = 2x - 1$, $FG = x + 5$, $GH = x$

Prove $x = 6$



STATEMENTS	REASONS
1. $EH = 28$, $EF = 2x - 1$, $FG = x + 5$, $GH = x$	1. Given
2. $EH = EG + GH$ $EG = EF + FG$	2.
3. $EH = EF + FG + GH$	3.
4. $28 = (2x - 1) + (x + 5) + x$	4. Substitution Property of Equality
5.	5. Simplify.
6.	6. Subtraction Property of Equality
7. $6 = x$	7. Division Property of Equality
8. $x = 6$	8. Symmetric Property of Equality

- _____ 7. What is Reason 2?
- a. Addition Property of Equality c. Substitution Property of Equality
- b. Angle Addition Postulate d. Segment Addition Postulate
- _____ 8. What is Statement 5?
- a. $28 = 3x + 4$ c. $24 = 4x$
- b. $24 = 4x + 6$ d. $28 = 4x + 4$

Segment and Angle proofs
Answer Section

1. B
2. B
3. B
4. C
5. D
6. D
7. D
8. D

