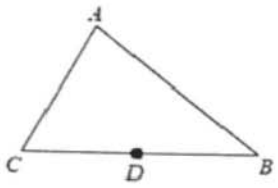
Two Column Proofs

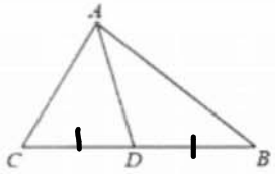
For each question, draw a conclusion based on the given information (use the vocabulary on the first page to help guide you)

1.



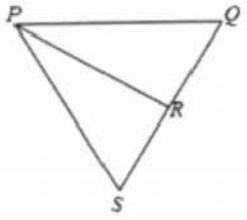
Statements	Reasons
1. D is the midpoint of $\overline{CB}$.	1. Given
2.	2.

2.



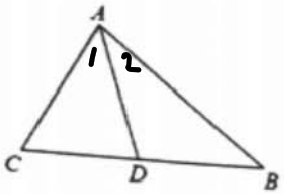
Statements	Reasons
1. $\overline{AD}$ bisects $\overline{CB}$.	1. Given
2. $\overline{CD} \cong \overline{BD}$	2. A segment bisector divides a segment into two congruent segments.

3.



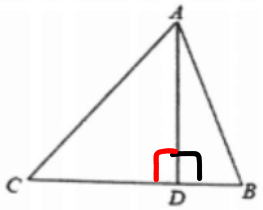
Statements	Reasons
1. $\overline{PR}$ is a median in ΔPQS.	1. Given
2. R is the midpoint of $\overline{SQ}$	2. A median connects the vertex to the midpoint of the opp. side

4.



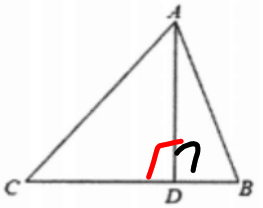
Statements	Reasons
1. $\overline{AD}$ bisects $\angle CAB$.	1. Given
2. $\angle 1 \cong \angle 2$	2. An angle bisector divides an angle into two congruent angles

5.



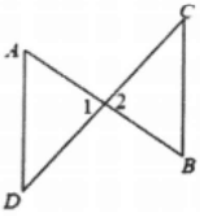
Statements	Reasons
1. $\overline{AD}$ is an altitude in ΔABC.	1. Given
2. $\angle ADB$ and $\angle ADC$ are right $\angle$'s	2. An altitude is a line from a vertex that is $\perp$ to the opp. side

6.



Statements	Reasons
1. $\overline{AD} \perp \overline{CB}$	1. Given
2. $\angle ADB$ and $\angle ADC$ are right $\angle$'s	2. $\perp$ Lines form right $\angle$'s

7.

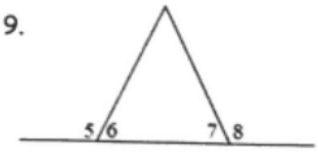


Statements	Reasons
1. $\overline{AB}$ and $\overline{CD}$ intersect.	1. Given
2. $\angle 1 \cong \angle 2$	2. Vertical $\angle$'s are $\cong$

8.

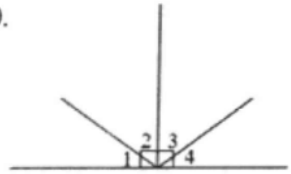
Statements	Reasons
1. $\angle 1$ and $\angle 2$ are complementary.	1. Given
2. $\angle 1 + \angle 2 = 90^\circ$	2. Comp. $\angle$'s add to 90°

9.



Statements	Reasons
1. $\angle 5 \cong \angle 8$	1. Given
2.	2.

10.



Statements	Reasons
1. $\angle 1 \cong \angle 4$	1. Given
2. $\angle 2 \cong \angle 3$	2. Complements of $\cong$ $\angle$'s are $\cong$.

1) Postulate: A statement whose truth value is accepted without proof.

2) Theorem: A statement that is proved through deductive reasoning.

3) Deductive Reasoning: Using the fact to formulate conclusions that must be true.

1) Addition Postulate: If congruent segments/angles are added to congruent segments/angles, the sums are congruent.

2) Subtraction Postulate: If congruent segments/angles are subtracted from congruent segments/angles, the differences are congruent.