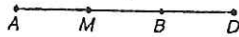


Fill in the missing parts for all proofs.

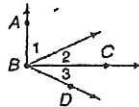
- ① Given: M is the midpoint of \overline{AB} .
 B is the midpoint of \overline{MD} .
 Prove: $MD = 2MB$



Proof:

Statements	Reasons
a. M is the midpoint of \overline{AB} . B is the midpoint of \overline{MD} .	a. _____
b. $AM = MB$ $MB = BD$	b. _____
c. $MD = MB + BD$	c. _____
d. $MD = MB + MB$	d. _____
e. $MD = 2MB$	e. _____

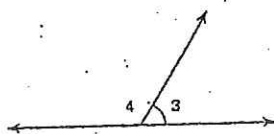
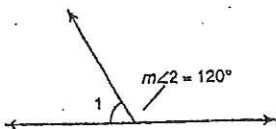
- ② Given: $\overline{AB} \perp \overline{BC}$
 $m\angle 2 = m\angle 3$
 Prove: $m\angle 1 + m\angle 3 = 90$



Proof:

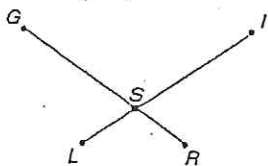
Statements	Reasons
a. $\overline{AB} \perp \overline{BC}$ $m\angle 2 = m\angle 3$	a. _____
b. ABC is a right angle.	b. _____
c. $m\angle ABC = 90$	c. _____
d. $m\angle ABC = m\angle 1 + m\angle 2$	d. _____
e. $m\angle 1 + m\angle 2 = 90$	e. _____
f. $m\angle 1 + m\angle 3 = 90$	f. _____

- ③ Given: $\angle 1$ and $\angle 2$ are a linear pair
 $\angle 3$ and $\angle 4$ are a linear pair
 $m\angle 3 = m\angle 1$
 $m\angle 2 = 120^\circ$
 Prove: $m\angle 4 = 120^\circ$



Statement	Reason
1. $\angle 1$ and $\angle 2$ are a linear pair	1.
2. $m\angle 1 + m\angle 2 = 180^\circ$	2.
3. $m\angle 2 = 120^\circ$	3.
4. $m\angle 1 + 120^\circ = 180^\circ$	4.
5. $m\angle 1 = 60^\circ$	5.
6. $m\angle 1 = m\angle 3$	6.
7. $m\angle 3 = 60^\circ$	7.
8. $\angle 3$ and $\angle 4$ are a linear pair	8.
9. $m\angle 3 + m\angle 4 = 180^\circ$	9.
10. $60^\circ + m\angle 4 = 180^\circ$	10.
11. $m\angle 4 = 120^\circ$	11.

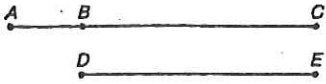
- ④ Given: $\overline{GR} \cong \overline{IL}$
 $\overline{SR} \cong \overline{SL}$
 Prove: $\overline{GS} \cong \overline{IS}$



Statements	Reasons
1.	1. Given
2.	2. Given
3. $GS + SR = GR$	3.
4.	4. Segment Addition
5.	5. Substitution (1 & 3) & 4)
6. $GS + SL = IS + SL$	6.
7.	7.

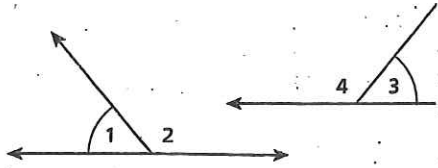
Try writing your own Two column proof! The number of steps you will probably use is listed.

- 5 Given: $BC = DE$
 Prove: $AC = AB + DE$



Statements	Reasons
1.	1.
2.	2.
3.	3.

6.



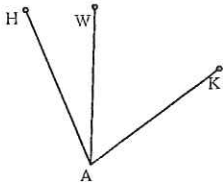
Given: $m\angle 1 = m\angle 3$

Prove: $m\angle 2 = m\angle 4$

Statements	Reasons
a.	a.
b.	b. Linear Pairs
c.	c. Linear Pairs
d.	d. Substitution (or Transitive)
e.	e.
f.	f.

- 7 Given: $m\angle HAW = 5x + 7$
 $m\angle WAK = x - 3$
 $m\angle HAK = 100^\circ$

Prove: $x = 16$



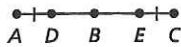
Statements	Reasons
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.
7.	7.
8.	8.

- 8 Use the given flowchart proof to write a two-column proof.

Given: B is the midpoint of \overline{AC} .

$AD = EC$

Prove: $DB = BE$



Flowchart proof:

