

PROVING STATEMENTS ABOUT SEGMENTS



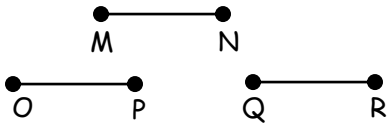
Name _____ Period _____ Date _____

1. GIVEN: $AB = CD$
 PROVE: $AC = BD$



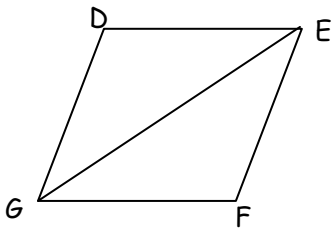
STATEMENT	REASON
1. $AB = CD$	1.
2. $BC = BC$	2.
3. $AB + BC = CD + BC$	3.
4. $AB + BC = AC$	4.
5. $CD + BC = BD$	5.
6. $AC = BD$	6.

2. GIVEN: $OP = MN$, $MN = QR$
 PROVE: $\overline{OP} \cong \overline{QR}$



STATEMENT	REASON
1. $OP = MN$	1.
2. $MN = QR$	2.
3. $OP = QR$	3.
4. $\overline{OP} \cong \overline{QR}$	4.

3. GIVEN: $DG = 8$, $GF = 8$, $\overline{GF} \cong \overline{EF}$
 PROVE: $\overline{DG} \cong \overline{EF}$



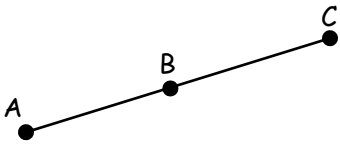
STATEMENT	REASON
1. $DG = 8$	1.
2. $GF = 8$	2.
3. $DG = GF$	3.
4. $\overline{DG} \cong \overline{GF}$	4.
5. $\overline{GF} \cong \overline{EF}$	5.
6. $\overline{DG} \cong \overline{EF}$	6.

4. GIVEN: $JK = MN$
 PROVE: $\overline{JM} \cong \overline{KN}$



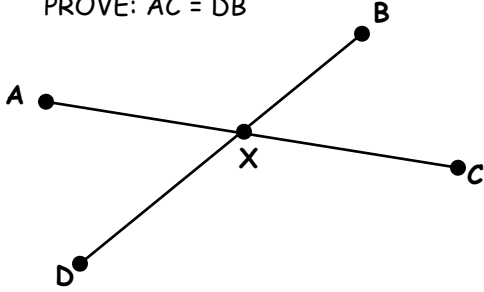
STATEMENT	REASON
1. $JK = MN$	1.
2. $KM = KM$	2.
3. $JK + KM = MN + KM$	3.
4. $JM = JK + KM$	4.
5. $KN = KM + MN$	5.
6. $JM = KN$	6.
7. $\overline{JM} \cong \overline{KN}$	7.

5. GIVEN: $AB = BC$
 PROVE: $\frac{1}{2}AC = BC$



STATEMENT	REASON
1. $AB = BC$	1.
2. $AC = AB + BC$	2.
3. $AC = BC + BC$	3.
4. $AC = 2BC$	4.
5. $\frac{1}{2}AC = BC$	5.

6. GIVEN: $AX = DX$, $XB = XC$
 PROVE: $AC = DB$

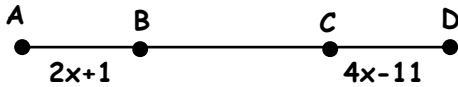


STATEMENT	REASON
1. $AX = DX$	1.
2. $AX + XB = DX + XB$	2.
3. $XB = XC$	3.
4. $AX + XC = DX + XB$	4.
5. $AX + XC = AC$	5.
6. $DX + XB = DB$	6.
7. $AC = DB$	7.

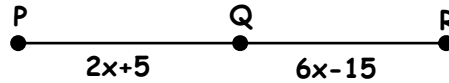
Solve for the variable using the given information. Explain the steps.

7. GIVEN:

$$\overline{AB} \cong \overline{BC}, \overline{CD} \cong \overline{BC}$$



8. GIVEN: $PR=46$



9. GIVEN:

$$\overline{ST} \cong \overline{SR}, \overline{QR} \cong \overline{SR}$$

