

① Given: $\frac{1}{3}x + 6 = -8$
 Prove: $x = -42$

Statements	Reasons
1. $\frac{1}{3}x + 6 = -8$	1.
2. $6 = 6$	2.
3. $\frac{1}{3}x = -14$	3.
4. $3(\frac{1}{3}x) = 3(-14)$	4.
5. $x = -42$	5.

② Given: $-28 = 2(x+3) - 5(x-1)$
 Prove: $x = 13$

Statements	Reasons
1. $-28 = 2(x+3) - 5(x-1)$	1.
2. $-28 = 2x + 6 - 5x + 5$	2.
3. $-28 = -3x + 11$	3.
4. $11 = 11$	4.
5. $-39 = -3x$	5.
6. $13 = x$	6.
7. $x = 13$	7.

③ Given: $\frac{1}{4}(12x+16) = 10 - 3(x-2)$
 Prove: $2 = x$

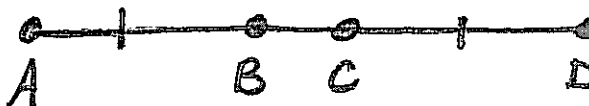
Statements	Reasons
1. $\frac{1}{4}(12x+16) = 10 - 3(x-2)$	1.
2. $3x+4 = 10 - 3x+6$	2.
3. $3x+4 = 16 - 3x$	3.
4. $3x = 3x$	4.
5. $6x+4 = 16$	5.
6. $4 = 4$	6.
7. $6x = 12$	7.
8. $x = 2$	8.
9. $2 = x$	9.

Give a reason for each step in the proof.

1. Given: $x + 3 = 7 - x$
 Prove: $x = 2$

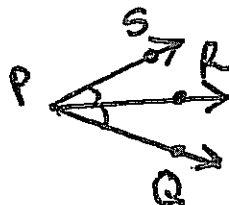
Proof:	Reasons:
1. $x + 3 = 7 - x$	1.
2. $2x + 3 = 7$	2.
3. $2x = 4$	3.
4. $x = 2$	4.

2. Given: $AB = CD$
 Prove: $AC = BD$



Proof:	Reasons:
1. $AB = CD$	1.
2. $BC = BC$	2.
3. $AB + BC = CD + BC$	3.
4. $AB + BC = AC$	4.
5. $BC + CD = BD$	5.
6. $AC = BD$	6.

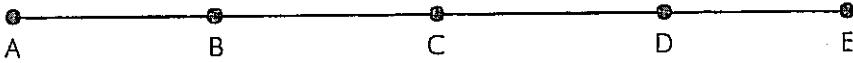
3. Given: \overline{PR} bisects $\angle SPQ$
 Prove: $2(m\angle RPQ) = m\angle SPQ$



Proof:	Reasons:
1. \overline{PR} bisects $\angle SPQ$	1.
2. $\angle RPQ \cong \angle RPS$	2.
3. $m\angle RPQ = m\angle RPS$	3.
4. $m\angle RPQ + m\angle RPS = m\angle SPQ$	4.
5. $m\angle RPQ + m\angle RPQ = m\angle SPQ$	5.
6. $2(m\angle RPQ) = m\angle SPQ$	6.

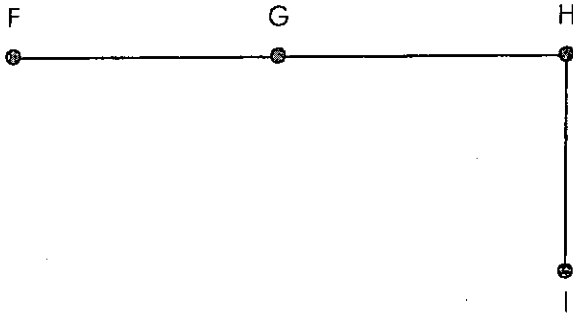
Prove This

Prove the following situations.



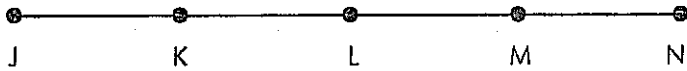
Given: $\overline{AB} \cong \overline{DE}$

Prove: $CD + AB = CE$



Given: G is the midpoint of \overline{FH} , $\overline{FG} \cong \overline{HI}$

Prove: $\overline{GH} \cong \overline{HI}$



Given: $\overline{JK} \cong \overline{MN}$, $\overline{KL} \cong \overline{LM}$

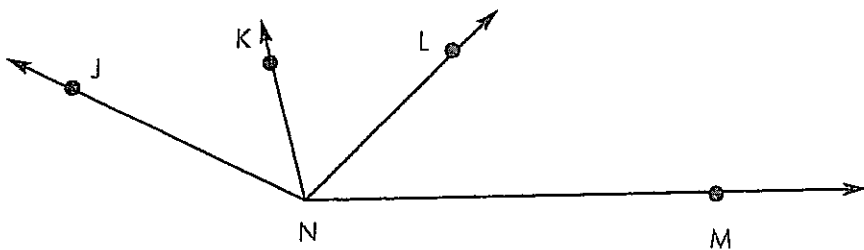
Prove: L is the midpoint of \overline{JN}

Write proofs
on a piece of
notebook paper
so you have
enough room!

Prove This

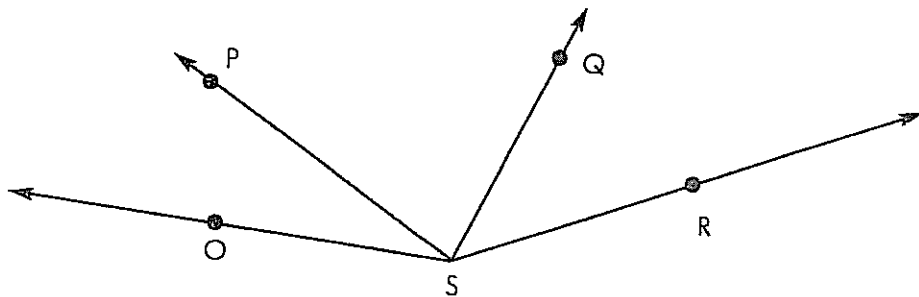
Complete on notebook paper!

Prove the following situations.



Given: $\angle JNK \cong \angle LNM$

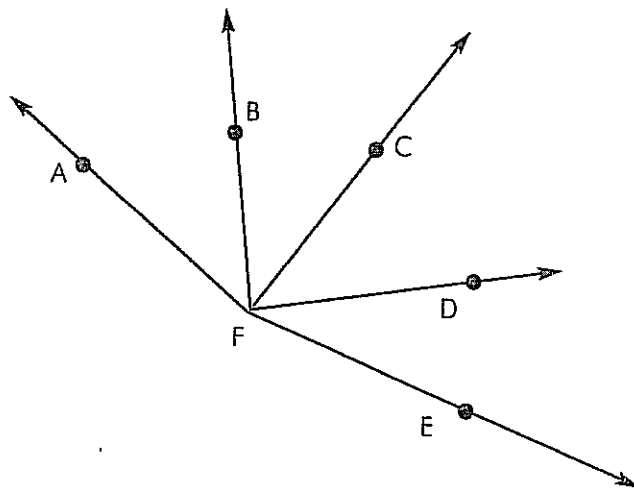
Prove: $\angle JNL \cong \angle KNM$



Given: \overrightarrow{SP} bisects $\angle OSQ$

\overrightarrow{SQ} bisects $\angle PSR$

Prove: $\angle OSP \cong \angle QSR$



Given: $\angle AFB \cong \angle DFE$

Prove: $m\angle CFD + m\angle AFB = m\angle CFE$