Geometry w/ Applications
2.4, 2.5, 2.6 Practice

Name _____

Name the property of equality that justifies each statement.

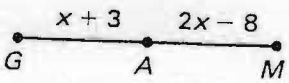
1. If $m\angle A = m\angle B$, then $m\angle B = m\angle A$. 1. _____
2. $xy = xy$ 2. _____
3. If $XY - YZ = XM$, then $XY = XM + YZ$ 3. _____
4. If $y = 3x + 4$ and $x = 6$, then $y = 22$. 4. _____
5. If $7x = 42$, then $x = 6$. 5. _____
6. $2(x + 4) = 2x + 8$. 6. _____

Solve the equation, giving a reason for each step.

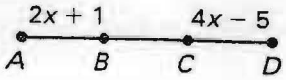
7. a) $3x - 4 = \frac{1}{2}x + 6$ a) _____
   b) _____ b) _____
   c) _____ c) _____
   d) _____ d) _____
   e) _____ e) _____

Solve for the variable using the given information.

8. Given: $GM = 28$

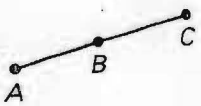


9. Given: $\overline{AB} \cong \overline{BC}, \overline{BC} \cong \overline{CD}$



Complete the proof.

10. Given: $AB = BC$ Prove: $\frac{1}{2}AC = BC$

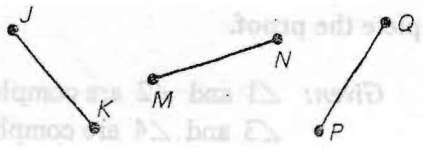


a) _____ a) _____
b) $AC = AB + BC$ b) _____
c) _____ c) _____
d) _____ d) _____
e) _____ e) _____

Complete the proof.

32. *Given:* $\overline{JK} \cong \overline{MN}$
$\overline{MN} \cong \overline{PQ}$

Prove: $JK = PQ$

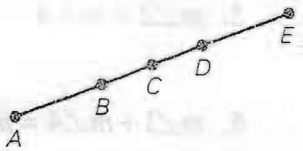


Statements	Reasons
1. $\overline{JK} \cong \overline{MN}$	1. _____
2. $\overline{MN} \cong \overline{PQ}$	2. _____
3. $\overline{JK} \cong \overline{PQ}$	3. _____
4. _____	4. _____

Complete the proof.

33. *Given:* $AB = DE$
$BC = CD$

Prove: C is the midpoint of $\overline{AE}$.

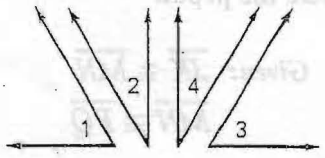


Statements	Reasons
1. $AB = DE$	1. _____
2. $BC = BC$	2. _____
3. $AB + BC = DE + BC$	3. _____
4. $BC = CD$	4. _____
5. $AB + BC = DE + CD$	5. _____
6. $AC = AB + BC$	6. _____
7. $AC = DE + CD$	7. _____
8. $CE = DE + CD$	8. _____
9. $AC = CE$	9. _____
10. $\overline{AC} \cong \overline{CE}$	10. _____
11. C is the midpoint of $\overline{AE}$	11. _____

Complete the proof.

34. *Given:* $\angle 1$ and $\angle 2$ are complements.
$\angle 3$ and $\angle 4$ are complements.
$\angle 2 \cong \angle 4$

Prove: $\angle 1 \cong \angle 3$



Statements	Reasons
1. $\angle 1$ and $\angle 2$ are complements $\angle 3$ and $\angle 4$ are complements	1. _____
2. $m\angle 1 + m\angle 2 = 90°$ $m\angle 3 + m\angle 4 = 90°$	2. _____
3. $m\angle 1 + m\angle 2 = m\angle 3 + m\angle 4$	3. _____
4. $\angle 2 \cong \angle 4$	4. _____
5. $m\angle 2 = m\angle 4$	5. _____
6. $m\angle 1 + m\angle 4 = m\angle 3 + m\angle 4$	6. _____
7. $m\angle 1 = m\angle 3$	7. _____
8. _____	8. _____