Directions: Solve each equation. Show all your steps and write a justification for each step.

1)  $\frac{1}{5}(a+10) = -3$  2) t+6.5 = 3t-1.3

3) The formula for the perimeter P of a rectangle with length, I, and width, w, is P = 2(I + w). The perimeter of a rectangle is 9.5 feet and the width is 1.25 ft. Solve the equation for I and justify each step.

Directions: Identify the property that justifies each statement.				
4) m = n, so n = m	5) $\angle ABC \cong \angle ABC$	6) $\overline{KL} \cong \overline{LK}$	7) p = q & q = 3, so p = 3	

## Directions: Write a justification for each step.

8) Given: M - N = 10; M = 2x - 5; N = -x + 6

M – N = 10	
(2x-5) - (-x+6) = 10	
2x - 5 + x - 6 = 10	
3x - 11 = 10	
3x = 21	
x = 7	

Directions: Complete each proof.

9) Given: 3x - 2y = 12Prove:  $y = \frac{3}{2}x - 6$ 10) Given:  $7 = \frac{2x-1}{3}$ Prove: x = 11

11) Given: 5(x − 4) − 3x = −36
Prove: x = −8

12) Given: 2L + 2w + 2h = AProve:  $w = \frac{A}{2} - L - h$ 

13) Given:  $\angle A$  and  $\angle B$  are vertical angles,  $m \angle A = (12x - 38)^{\circ}$ , &  $m \angle B = (8x + 6)^{\circ}$ Prove:  $m \angle A = 94^{\circ}$  14) Given:  $\angle C$  and  $\angle D$  are complementary  $\angle s$ ,  $m \angle C = (4x - 10)^{\circ}$ , &  $m \angle D = (2x + 34)^{\circ}$ Prove:  $m \angle D = 56^{\circ}$