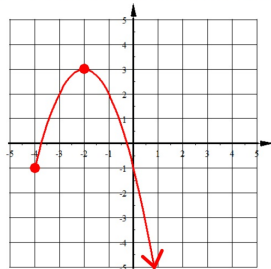1. State the Domain and Range using inequalities.

Domain: $x \geq -4$

Range: $y \leq 3$

2. Use these two functions: $h(x) = x^2 - 6x$ $g(x) = 2x - 5$

Find $h(g(6))$

$g(6) = 2(6) - 5 = 7$

$h(g(6))$

$h(7) = (7)^2 - 6(7) = 7$

3. Two people get in their boats and leave the same spot at the same time traveling in opposite directions. The person sailing East sails 4 mph faster than the person sailing West. After five hours they 140 miles apart.
Write and solve a system of equations to find out how fast each boat was sailing.

16mph   12mph

	EAST	WEST
d	$5(x+4)$	$5x$
r	$x+4$	x
t	5	5

$\_\_ + \_\_ = 140$

$5x + 20 + 5x = 140$

$10x + 20 = 140$

$x = 12 \text{ mph}$

4. Solve for Q. State restrictions on the variables.

$H(M + PQ) - A = W + JQ$

$HM + HPQ - A = W + JQ$

$HPQ - JQ = W + A - HM$

$\dfrac{Q(HP-J)}{HP-J} = \dfrac{W+A-HM}{HP-J}$

$HP - J \neq 0$