**Math 9 Chapter 6 – Solving Inequalities Worksheet**

1. Solve each inequality and graph.
2. $-5x+6>-14$ e) $\frac{x}{-5}<2$
3. $-3x-4\leq -13$ f) $8\left(x-2\right)>8-4x$
4. $3x-2>2x+1$ g) $2\left(8x-13\right)+4<18x+26$
5. $6\left(m-4\right)-2\left(m+2\right)<7\left(m-4\right)-6$
6. Is $x=4$ a solution for the inequality $3x+4>12$? Explain why or why not.

1. A peregrine falcon can dive at up to 350 km/h. This speed is 50 km/h faster than 3 times the top speed of the fastest land animal, the cheetah. Write and solve an inequality to determine the speed of a cheetah.
2. A rectangle has dimensions 10 and $x+1$. Write an inequality to find the values of x that give this rectangle an area of less than 50.
3. Two bus companies charge as follows for a trip:
 Company A: $200 plus $2 per person

 Company B: $100 plus $4 per person

1. Write an equation for the cost, C, in terms of the number of people, n, for each company.
2. Solve the equation algebraically to find the number of people when both companies charge the same amount.
3. Two car rental places charge the following:

 Total wreckage: It costs $5 every day plus a one time fee of $50

 Car Nutz: It costs $8 every day plus a one time fee of $20.

1. Write an expression for the cost of each rental company.
2. Solve an inequality to determine when it costs less to rent a car rom Car Nutz.
3. Graph the inequality