

M\$5 Homework 40

- The speed of a laundry truck varies inversely with the time it takes to reach its destination. If the truck takes 3 hours to reach its destination traveling at a constant speed of 50 miles per hour, how long will it take to reach the same location when it travels at a constant speed of 60 miles per hour?
- To balance a seesaw, the distance, in feet, a person is from the fulcrum is inversely proportional to the person's weight, in pounds. Bill, who weighs 150 pounds, is sitting 4 feet away from the fulcrum. If Dan weighs 120 pounds, how far from the fulcrum should he sit to balance the seesaw?
- If the point (a, b) lies on the graph of $y = f(x)$, the graph of $y = f^{-1}(x)$ must contain the point
 - $(0, b)$
 - $(a, 0)$
 - (b, a)
 - $(-a, -b)$
- In a given rectangle, the length varies inversely as the width. If the length is doubled, the width will
 - be divided by 2
 - be multiplied by 2
 - remain the same
 - increase by 2
- Graph $f(x) = -0.2x^2 + 90x - 50$ and $g(x) = 10.87x + 1500$ on a graphing calculator. (Round all values to the nearest hundredth.)

a) State an appropriate window:

Xmin=	
Xmax=	
Xscl=	
Ymin=	
Ymax=	
Yscl=	

b) State the coordinates of the vertex of $f(x)$.

c) Find the zeros of $f(x)$.

d) Find the coordinates of the points of intersection of the graphs of $f(x)$ and $g(x)$.

- The accompanying diagram shows the graph of the line whose equation is $y = -\frac{1}{3}x + 2$.

On the same set of axes, sketch the graph of the inverse of this function.

State the coordinates of a point on the inverse function.

