Alg 2 Bellwork Tuesday, December 10, 2013

1. Mass of an object varies inversely with its velocity. An object with a mass of 15kg is moving with a velocity of 32 ft/s.

$K = xy = (32)(15) = 480$

a. Write an inverse variation equation.

$480 = xy$ or $y = \frac{480}{x}$

b. Find the mass when the velocity is 40 ft/s.

$480 = xy$

$\frac{480}{40} = \frac{40y}{40}$

$12 = y$

$y = \frac{480}{40} = 12$

2. Your distance from lightning varies directly with the time it takes for you to hear the thunder. If you hear thunder 2.4 seconds after seeing a lightning bolt, you are about 12miles from the lightning.

a. Write a direct variation equation.

$12 / 2.4 = 5$ $\quad \frac{y}{x} = 5$

b. Find the your distance from a lightning bolt if you hear the thunder in 0.5 seconds.

$\frac{2.4\text{ s}}{12\text{ mi}} = \frac{.5\text{ s}}{x\text{ mi}}$ $x = 2.5$ miles