1. Solve

$$\frac{6}{5}+\frac{1}{6}=\frac{1}{x}$$

1. Solve

$$\frac{1}{2y}+\frac{9}{y}=1$$

1. Solve

$$\frac{4}{x+2}=\frac{6}{x}$$

1. Solve the following for x

$$\frac{x+1}{x+6}=\frac{x-5}{x+2}$$

1. Solve the following equation for the variable

$$\frac{1}{x-3}+\frac{4}{x+3}=\frac{6x}{x^{2 }-9}$$

1. Solve

4 - $\frac{a-9}{a+5}=\frac{a^{2}-11}{a+5}$

1. Solve

(4a-3)=$\frac{a+33}{a+1}$

1. Jack usually mows his lawn in 5 hours. Marilyn can mow the same yard in 3 hours. How much time would it take them to mow the lawn together?
2. The speed of a passenger train is 10mph faster than the speed of a freight train. The passenger train travel 310 miles in the same time it takes the freight train to travel 260 miles. Find the speed of each train.
3. A long distance trucker traveled 120 miles in one direction during a snow storm. The return trip is rainy weather was accomplished at double the speed and took 3 hours less time. Find the speed going.
4. A black racer snake travels 6.9km in 3 hours. What is the speed in km/h. Round the answer to the nearest tenth.
5. There are approximately 2 lbs of muscle for every 7 lbs of body weight of a certain animal. For 161 lbs animal, how much of weight is muscle?
6. 10$cm^{3}$ of a normal specimen of human blood contains 1.2g of hemoglobin. How many grams does 31$cm^{3}$of the same blood contain?
7. It is know that making 1 lb of honey requires 20,000 trips by bees to the flowers to gather nectar. How many pounds of honey would 85,000 trips produce?
8. Last season a major league baseball player got 100 hit in 200 times at bat. If the player expects to bat 600 times in the entire seasons with the same ratio of hit to bats, how many hits can the player expect to have?
9. A sample of 120 firecrackers contained 9 duds. How many duds would you expect in samples of 2160 firecrackers?
10. For the pair of similar triangle find the value of x.

 X G

 11 4

y x z F 6 H

1. Find the variation constant and an equation of variation where y varies directly as x and y=35 when x =7
2. The number N of aluminum cans used each year varies directly as the number of people P using the cans. If 57 people use 16,701 cans in one year, how many cans are used in a city which has a population of 1,751,000
3. Hooke’s Law. The distance d when a spring is stretched by a hanging object varies directly as the weight w of the object. If the distance is 14cm when the weight is 4kg, what is the distance when the weight is 7kg? Give your answer in cm.
4. Find the variation constant and an equation of variation where y varies inversely as x and y =1 where x=3.
5. It takes 2 hours for 8 cooks to prepare the food for rehearsal dinner. How long will it take 5 cooks to prepare the dinner?
6. What kind of variation applies to the situation?
7. Solve the problem
8. What kind of variation applies to the situation?
9. Inverse variation
10. Direct variation
11. The stopping distance d of a car after the brakes are applied varies directly as the square of the speed. If a car travelling 30mph can stop in 50 feet. How many feet will it take the same car to stop when it is travelling 70mph?