**Problem 1**

**One light flashes every 2 min. and another light flashes every 7 min. If both lights flash at 1 P.M., what is the first time after 3 P.M. the same day that both lights flash together?**

Flash 1: 2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,62,64,66,68,70,72,74,76,78,80,82,84,86,88,90,92,94,96,98,100,102,104,106,108,110,112,114,116,118,120,122,124,126

Flash 2: 7,14,21,28,35,42,49,56,63,70,77,84,91,98,105,112,119,126

Both the flashes after 3 p.m. would flash same at 3:06 p.m.

**Problem 2**

**The front wheel of a bicycle is four times as large as the rear wheel, and the rear wheel makes 1 complete revolution each time the pedals make ⅓ of a revolution. How many revolutions do the front wheels make when the pedals make 8 revolutions?**

Rear Wheel = x

Front Wheel = 4x

Rear wheel revolution per 1/3 pedal revolution = 1

So 1 pedal revolution = 3 rear wheel revolution

8 pedal revolution = 24 rear wheel revolution

So as front wheel is four times as large as rear wheel so we have to divide 24 by 4 in order to get the revolution by front wheel.

8 pedal revolutions = 6 front wheel revolutions

**Problem 3**

**City P is 295 mi. away from city Q. A car starts from city P at 1 P.M. and travels toward city Q at 50 mph. Another car starts from city Q at 1:30 P.M. and travels toward city P at 40 mph. At what time do the cars pass one another?**

Known Values:

* Distance = 295 mi.
* Car 1 rate = 50 mph started from city P to city Q at 1:00 p.m.
* Car 2 rate = 40 mph started from city Q to city P at 1:30 p.m

Unknown Value

* Time at which the cars pass one another?

Do: Subtract 25 miles from 295 miles as Car 1 starts half an hour earlier.

Then 270 miles is the distance between both the cars. After every hour, they come 90 miles close to each other so at **4:30 p.m.** they will pass by each other.

**Problem 4**

**Twenty men did ¼ of a job in 8 days. Then, because of an emergency, it became necessary to complete the job in the next 5 days. How many additional men were added to the crew of 20 to accomplish this?**

Known Values:

* 20 men in 8 days = ¼ job

Unknown Value:

* Additional men crew for ¾ of job?

Do:

20 men in 1 day = 1/32 job

1 men = 1/640 job

20 men in 5 days = 5/32 job

**Problem 5**

**A salesman traveled at 60 mph while making a 120-mi. trip to a client, then returned home at 40 mph. What was his average speed for the round trip?**

Known Values:

* Going Speed = 60 mph
* Return speed = 40 mph
* Total Distance to client = 120 miles

Unknown Value:

* Average Speed?