

Joe's Woes

Hey, can you help me? I am Joe, owner of a car wash. I love cars, especially clean ones. On 1 March, my friends and I got together and started this car wash. There are so many dirty cars that come by everyday and we send them away sparkling clean.



Now, did I say I needed help? I do. I really do.

You see, we have been so busy that we have not had time to stop. The car wash stays open all day and all night. Do you know how many hours that is? It is many hours of work for us.



The car wash is open _____ hours s day.

There is one other thing you must know about me. I find working through numbers a little tricky. I have not been able to work out how much money we have made. It is important for us to know that. If we do not make enough money to pay everyone, then, I must look for another job.

Do you see my problem now? I need help to figure out the money business. This is what I can tell you. I sure hope you can work things out for me.

This is how we work at the car wash.

All vehicles are washed the same way. There are four stages:

1. First, we spray water on the vehicle to wash off the dirt.
2. Next, at the Soaping station, we spray soapy water and clean them with a sponge.
3. We then wash off the soap by spraying clean water. By this stage, the vehicle looks clean on the outside.
4. The drying guys wipe the vehicles dry. The clean vehicles are back on the road after that.

Sometimes, cars are dirty on the inside too. Taxis and vans always get vacuumed. One in five MPVs is vacuumed. Only one in seven cars is vacuumed.

These are the prices we charge for cleaning each vehicle:

Vehicle	Wash	Vacuum
MPV	\$7.00	\$5.00
Saloon Car	\$5.00	\$4.00
Taxi	\$3.00	\$2.00
Vans	\$7.00	\$5.00

100 vehicles come by everyday. $\frac{1}{4}$ of the vehicles are taxis. For every 20 vehicles, one will be a van. Half of the rest are saloon cars and the other half are MPVs. Can you work out how many of each type of vehicle we clean everyday?

Number of MPVs cleaned: _____

Number of saloon cars cleaned: _____

Number of taxis cleaned: _____

Number of vans cleaned: _____

How much money do we earn from all these vehicles?

Amount of money collected from cleaning the vehicles:

Amount of money collected from vacuuming the vehicles:

Total amount collected daily:



There is something else to work out. At all times, there is one person at each cleaning station. At the soaping and drying stations, there are two people. The drying people collect payment from vehicle owners for the cleaning done. As the hours are long, each person only works 8 hours.

Can you tell me how many different people work at the car wash everyday?



Number of people who work at the car wash daily: _____

Everyone working at the car wash is paid. Each receives \$30 a day. How much do I pay out everyday? How much will each person earn in a year? Bert says he will earn less on some months and more on other months. How can this be?

How much do I pay out everyday?

Why does Bert say he will earn more on some months and less on others?

How much will each person earn in a year? This is year 2006.

Oh, besides paying the guys, we pay for other things too.

To start the car wash, we bought some cleaning material too. As we cleaned so many cars, they only lasted one month. This month, I bought new cleaning material – soap, sponge and cloth. The only thing I did not have to buy this month was a vacuum cleaner, water hose and pails. I am told these will last at least a year. I hope the vacuum cleaner does not break down before then.

This was what we spent:

Cleaning Material	Price	Quantity
Soap (in buckets)	\$20.00	5
Water Hose	\$30.00	3
Pails	\$5.00	2
Sponge	\$2.00	4
Drying Cloth	\$1.50	4
Vacuum Cleaner	\$650.00	1

How much did I spend on cleaning material this month?



We use a part of a petrol station for the car wash. We do not own the space. We pay the petrol station owner for use of the space. This is called rent. Rent is \$900 a month.

Bob said something about making a profit. He says we must be profitable or we will go bust. Making a profit means we spend less than we earn. Bob is not good with numbers either. He only learnt the word, but cannot work out if we did make a profit. I think we made a profit, but I am not sure.

Did we make a profit in the first month?

How much profit did we make in the first month?

How much profit will we make this month?

Hey, I am keeping my fingers crossed that you can help work all these numbers out. .
Hmm... if we make a good profit, we should have a party to celebrate! Call me soon,
ok?

Bye now. I have to get back to the car wash.

Just Joe