



Problem of the Week

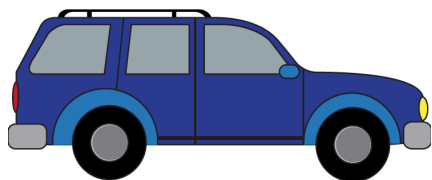
Problem B and Solution

Charge or Pump?

Problem

Madeline wants to trade in her gas-guzzling SUV (which uses gas at a rate of 20 litres per 100 km) for a hybrid which uses only 4.5 litres per 100 km. Allowing for her trade-in, she will pay \$31 000 for the new hybrid.

If gas remains stable at \$1.00 per litre, and Madeline drives 2 000 km per month, after how many months will Madeine have saved enough on gas (compared to her SUV) to compensate her for the cost of the hybrid?



Solution

Let's look at the monthly fuel consumption for each vehicle

For the SUV:		20 litres for	100km
	$\times 20$	400 litres for	2000km

Therefore the SUV will use 400 litres per month.

For the hybrid:		4.5 litres for	100km
	$\times 20$	90 litres for	2000km

Therefore the hybrid will use 90 litres per month.

The hybrid will use $400 - 90 = 310$ fewer litres per month.

Since gas is \$1.00 per litre, she will save $\$1.00 \times 310 = \310 per month.

The number of months will be $31\ 000 \div 310 = 100$ months. (This is equivalent to 8 years 4 months.)

