

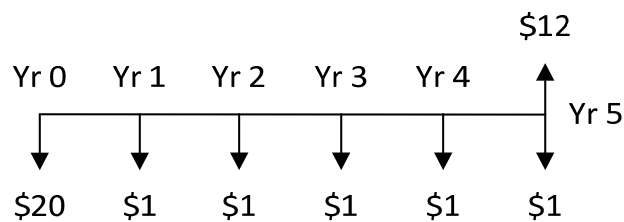
## Example PV Calculation for a Car

### Question:

Suppose a car costs \$20,000 in period 0, requires \$1000 of fuel in each of years 1-5 and can be sold in year 5 for \$12,000. If the interest rate is 5%, what is the PV of the car and its fuel?

### Answer:

All together, there are 7 payments associated with the car: the \$20,000 purchase price, the 5 fuel payments, and the \$12,000 resale value. Combining these into a cash flow diagram, where all flows are measured in thousands:



Calculating the PV of each payment by itself:

interest rate:	5%	
Year	Pmt	PV of Pmt
0	-20	-20.000
1	-1	-0.952
2	-1	-0.907
3	-1	-0.864
4	-1	-0.823
5	11	8.619

<-- each =  $pmt/(1+int)^{year}$

<-- 11 is 12K resale less 1K fuel

Total PV is the sum of the PVs of the individual payments:

Total	-14.927	<-- sum of the above
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Thus, the overall cost of the car in PV terms is \$14,927.