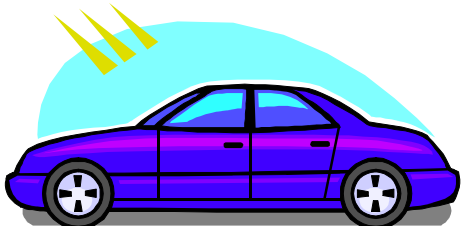
Depreciation

- Fixed assets do not last forever - they lose value because:
  - They wear out
  - Become obsolete
  - Are not maintained
    - e.g. if you buy a car today for £10,000, it will not be worth £10,000 this time next year!



- This must be shown in the balance sheet
- Therefore **DEPRECIATION**, is defined as

> ***"The fall in value of a fixed asset"***

- There are 2 ways in which depreciation can be calculated:
  - The Straight-line Method (easiest)
  - The Reducing Balance Method (more realistic)

The Straight-Line Method

- This reduces an asset by the same amount each year
- To calculate the amount it should be reduced by each year we use the formula:

$$\text{Depreciation} = \frac{\text{Original Cost - Expected Value}}{\text{Expected Years of Ownership}}$$

- For example:
  - A business buys machinery costing £20,000
  - It expects to keep it 5 years
  - After 5 years it expects to sell it for £5,000
  - This means that the depreciation will be:

$$\text{Depreciation} = \frac{\text{£20,000 - £5,000}}{\text{5 Years}} = \text{£3,000}\,per\ year$$

The Reducing Balance Method

- This reduces the value of an asset by the same **PERCENTAGE** each year
- The new value of the asset (THE NET BOOK VALUE) is entered in the balance sheet
- For example:
  - A business buys a machine for £20,000 and keeps it 3 years. It is depreciated by 40% each year

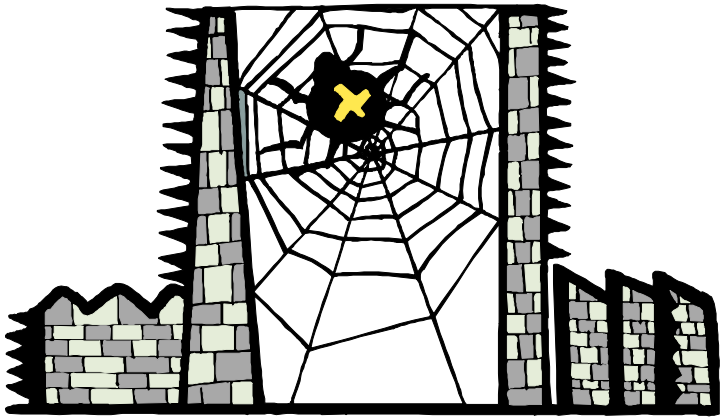
Year	Net Book Value (£)	Depreciation Expense For The Year (£)
0	20,000	-
1	12,000	8,000
2	7,200	4,800
3	4,320	2,880

The Reducing Balance Formula

- The percentage to charge each year is calculated using the following formula:

$$\left[1 - \sqrt[n]{\frac{\text{Residual Value}}{\text{Cost}}}\right] \times 100$$

- Where ***n*** is the number of years the asset is to be kept



Using The Formula

- Assume that a business wishes to buy a machine for £10,000 which it expects to keep for 4 years before selling it for £2,000

$$\% \text{ Depreciation} = \left[1 - \sqrt[n]{\frac{\text{Residual Value}}{\text{Cost}}}\right] \times 100$$

$$\% \text{ Depreciation} = \left[1 - \sqrt[4]{\frac{£2{,}000}{£10{,}000}}\right] \times 100$$

$$\% \text{ Depreciation} = [1 - 0.67] \times 100$$

$$\% \text{ Depreciation} = 33\%$$

The Effect of Depreciation

- Depreciation affects the accounts of businesses in 2 ways:
  - The actual depreciation is an **expense**, so goes in the **TRADING, PROFIT and LOSS ACCOUNT**
  - The new value of the fixed asset is then shown in the **BALANCE SHEET**