

Depreciation (Reducing Balance Method)

$$F = P(1 - i)^t$$

What is the annual rate of depreciation of a machine that cost 30,000, 5 years ago and is worth 10,000 now?

$$10,000 = 30,000(1 - i)^5$$

$$\left(\frac{10,000}{30,000}\right)^{\frac{1}{5}}$$

Annuities

Examples: Find the periodic payment of an annuity due of \$70000, payable annually for 3 years at 15% compounded annually.

$$R = 70000 / (1 + [(1 - (1 + (.15)/1))^{-(3-1)} / ((.15)/1)])$$

$$R = 70000 / 2.625708885$$

$$R = 26659.46724$$

Annuities

Find the periodic payment of an annuity due of

250700, payable quarterly for 8 years at 5% $R =$

$$250700 / (1 + (1 - (1 + (.05)/4)^{-32} - 1) / ((.05)/4)) R =$$

$$250700 / 26.5692901 R = 9435.71$$

Break Even Analysis

The Break-Even Point can alternatively be computed as the point where Contribution equals Fixed Costs. The quantity, $(P - V)$, is of interest in its own right, and is called the Unit Contribution Margin (C): it is the marginal profit per unit, or alternatively the portion of each sale that contributes to Fixed Costs.

Break Even Analysis