Rule of 72

Nominal → Effective

Simple Interest

$I = \$$ $r = ?$

$I = A - P$

$550 - 500$

1) If you deposit $1000 into an account that pays 6% per annum for 125 days, how much will you have at the end of this term?

$P = \$1000$

$t = \frac{125}{365}$

$r = 6\% = 0.06$

$A = ?$

$A = P(1 + rt)$ $\approx \$1020.55$

$A = 1000(1 + 0.06(\frac{125}{365}))$

1) What is the effective rate of interest for an investment at 17% compounded semi-annually?

$$i = \left(1 + \frac{j}{m}\right)^m - 1$$

$j = 0.17$

$m = 2$

$$i = \left(1 + \frac{0.17}{2}\right)^2 - 1$$

$$= 0.1722 \times 100 = 17.22\%$$

1)If you deposit $880 and after 5 months you have $902, what is the interest rate?

$P = 880$

$A = 902$

$t = \frac{5}{12}$

$A = P(1 + rt)$

$A = 1P + Prt$

$902 = 880 + 880(r)\left(\frac{5}{12}\right)$

$-880 = -880$

$22 = 366.6667r$

$22 = 366.6617$

$r = 0.0599$

$= 0.06 \times 100$

$r = 6\%$

1) If you invest $1500 in an account that pays 11% per annum, and it earns $82 in interest how long was the money invested?

$P = 1500 \quad r = 0.11$

$I = 82$

$82 + 1500 = \$1582 = A$

$A = 1500(1 + 0.11t)$

$1582 = 1500 + 1500(0.11)(t)$

$$82 = 165t$$

$$0.4969 = t$$

$$0.5 = t$$