NOV 26/07

Simple Interest

$I = Prt$

Ex. Len invested $2400 at a rate of 4% per annum. Calculate the interest after 2 years.

$I = Prt$

$I = 2400 \times .04 \times 2$

$I = \$192.00$

Ex. Same as above but for 8 months

$I = Prt$

$I = 2400 \times .04 \times \frac{8}{12}$

$I = \$64.00$

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Ex. Jean lent $600 to a friend for 4 months. Her friend paid her $607 in return. What is the rate of interest?

$$r = \frac{I}{Pt} = \frac{7}{600 \times (\frac{4}{12})}$$

$r = 0.035 = 3.5\%$

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Compound Interest

$A = P\left(1 + \frac{r}{n}\right)^{nt}$

A = Total Interest + Principal
P = Principal
r = Rate (Decimal)
t = Time (years)
n = Number of Compounds in one year.

Ex. A present value of $1000 is invested at 12% for 3 years. Find the amount at the end if compounded a) annually b) daily

a) $A = P\left(1 + \frac{r}{n}\right)^{nt}$

$A = 1000\left(1 + \frac{.12}{1}\right)^{1 \cdot 3}$ (4) (2) (1) (3)

$A = \$1404.93$

b) $A = P\left(1 + \frac{r}{n}\right)^{nt}$ (1095)

$A = 1000\left(1 + \frac{.12}{365}\right)^{3 \cdot 365}$

$A = \$1433.24$

Ex #44 omit 5, 6, 12, 15

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