Simple Discount Formula

d=discount rate P=Proceeds

I=Fdt

$d=\frac{I}{Ft}$

$F=\frac{I}{dt}$

$t=\frac{I}{Fd}$

Proceeds Formula

P=F(1-dt)

Maturity Value Formula

$F=\frac{P}{1-dt}$

Example:

1. Discount 25000 for 3 years and 6 months at 10% simple discount.

P=F(1-dt)

P=25000(1-.10x3.5)

P=16250

2. If 12300 is due at the end of 5 years at 8% simple discount, find the proceeds and simple discount.

P=F(1-dt)

P=12300(1-.08x5)

P=7380 Proceeds

I=Fdt

I=12300x.08x5

I=4920 Simple Discount

Equivalent Rates

$r=\frac{d}{1-dt}$ $d=\frac{r}{1+rt}$

Example:

1. A bank discounts 160000 loan due in 3 years at 10% simple discount. Find the equivalent simple interest rate.

$r=\frac{.10}{1-.10x3}$

r=14.29%

2. Find the simple discount rate to 15% simple interest for 240 days.

$d=\frac{.15}{1+.15x(\frac{240}{360})}$

d=13.64%