## MATH 120 3.1 Simple Interest

## Simple Interest Formulas (Given on the exam)

$$
\begin{gathered}
I=P r t \\
A=P+P r t \\
A=P(1+r t)
\end{gathered}
$$

I = interes $\dagger$
$P=$ principal (present value)
$r=$ annual interest rate in decimal form
$\dagger=$ time in years
$A$ = amount after time (future value)

## Examples

1. If $\$ 24000$ is loaned for 4 months at $10.5 \%$ annual rate, how much interest is earned?
2. How much interest will you have to pay for a credit card balance of $\$ 1152$ that is 1 month overdue, if a $13 \%$ annual rate is charged?
3. A loan of $\$ 26,000$ was repaid at the end of 20 months. What size repayment check (principal and interest) was written, if an $4.3 \%$ annual rate of interest was charged?
4. A loan of $\$ 890$ was repaid at the end of 18 months with a check for $\$ 915$. What annual rate of interest was charged?
5. If you paid $\$ 24$ to a loan company for the use of $\$ 1750$ for 190 days, what annual rate of interest did they charge?
6. What is the purchase price of a 50-day $T$-bill with a maturity value of $\$ 1186$ that earns an annual interest rate of $3.562 \%$ (Assume a 360 day year).
