

9] Consider a saving amount that earns 4% simple interest. How much should be deposited in the amount in order to have \$1000 in 150 days.

$$r = \frac{4}{100} = .04, \quad \boxed{p = ??}, \quad S = \$1000,$$

$$t = 150 \text{ days} = \frac{150}{365} = .4109$$

$$S = p + I$$

$$1000 = p + p \cdot r \cdot t$$

$$1000 = p + p(.04)(.4109)$$

$$1000 = p + .0164p$$

$$1000 = p(1 + .0164) \rightarrow 1000 = p(1.0164)$$

$$\therefore p = \frac{1000}{1.0164} = 983.86\$$$

10] How long will it take for \$5500 to grow to \$40300 at an interest rate of 4.8% compounded continuously.

$$\boxed{t = ??}, \quad \boxed{p = 5500\$}, \quad S = 40300\$$$

$$r = \frac{4.8}{100} = .048$$

$$S = p e^{rt}$$

( $\Rightarrow$ )