Some useful formulas:

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

$$A = P\left[\frac{(1+i)^m - 1}{i}\right] \qquad\qquad V = P\left[\frac{1 - (1+i)^{-m}}{i}\right]$$

(1) [5] What is the accumulated value of \$500 invested at 8% compounded quarterly for $2\frac{1}{2}$ years?

(2) [5] What rate of interest compounded annually is required to double an investment in 3 years?

(3) [5] A person wishes to accumulate $350,000 in a pension fund over the next 20 years. In order to reach this goal, how much should the person deposit at the end of each month into an account paying 5% compounded monthly?