

You may use a calculator and your homework, but not your books or notes. There are two problems worth 10 points each. **Show all of your work to receive full/partial credit.**

- 1) (#26 from 2.1) You are expecting a tax refund of \$1,500 in 3 weeks. A tax preparer offers you a \$1,500 loan for a fee of \$60 to be repaid by your refund check when it arrives in 3 weeks. Thinking of the fee as interest, what simple interest rate would you be paying on this loan?

Use $INT = PVrt$

$$60 = 1500r \left(\frac{3}{52} \right)$$

$$60 = \frac{1125}{13} r$$

$$r = 60 \left(\frac{13}{1125} \right) = 0.693$$

69.3% interest

- 2) (#31 from 2.2) I want to be earning an annual salary of \$100,000 when I retire in 15 years. I have been offered a job that guarantees an annual salary increase of 4% per year, and the starting salary is negotiable. What salary should I request in order to meet my goal?

Use $PV = \frac{FV}{\left(1 + \frac{r}{m}\right)^{mt}}$ $m=1, r=0.04, t=15$

$$PV = \frac{100000}{(1 + 0.04)^{15}} = \$55,526.50$$