

Math 112 - Quiz 12

October 23, 2018

Name key Score _____

Show all work to receive full credit. Supply explanations when necessary. This quiz is worth 5 points. YOU MUST WORK INDIVIDUALLY.

1. (3 points) \$825 is deposited into an account that earns 4.25% compounded monthly. How much is the account worth after 15 years? How much is made in interest?

$$\begin{aligned} A &= 825 \left(1 + \frac{0.0425}{12}\right)^{12 \cdot 15} \\ &= 825 * \left(1 + \frac{0.0425}{12}\right)^{(12 * 15)} \\ &= \boxed{\$ 1558.93} \end{aligned}$$

$$\begin{aligned} I &= A - P = 1558.93 - 825 \\ &= \boxed{\$ 733.93} \end{aligned}$$

2. (2 points) A couple sets aside \$5000 in a savings account. Interest is compounded quarterly at 9%. How much is the account worth after 10 years?

$$\begin{aligned} A &= 5000 \left(1 + \frac{0.09}{4}\right)^{4 \cdot 10} \\ &= 5000 * \left(1 + \frac{0.09}{4}\right)^{(4 * 10)} \\ &= \boxed{\$ 12,175.94} \end{aligned}$$