

Math 112 - Quiz 12

October 29, 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.

- (5 points) In order to plan for their retirement, a couple decides to invest in an annuity. They will make \$2000 semiannual payments into an account earning 8% compounded semiannually.

- How much will the account be worth in 25 years?

$$A = \frac{2000 * ((1 + 0.08/a)^{(a*25)} - 1)}{(0.08/a)}$$

$$= \boxed{\$ 305,334.17}$$

$R = 2000$
 $r = 0.08$
 $n = 2$
 $t = 25$
 $A = ?$

- How much of the account's value is from interest?

$$305334.17 - \overbrace{2000(2)(25)}^{100,000 \text{ TOTAL CONTRIBUTION}}$$

$$= \boxed{\$ 205,334.17}$$