

Math 112 - Quiz 13

October 25, 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.

- (3 points) Decide which is the better investment by computing and comparing effective rates: 3% compounded daily or 3.1% compounded quarterly.

3% DAILY:

$$E = \left(1 + \frac{0.03}{365}\right)^{365} - 1$$

$$\approx 0.030453$$

$$= \boxed{3.0453\%}$$

3.1% QUARTERLY:

$$E = \left(1 + \frac{0.031}{4}\right)^4 - 1$$

$$\approx 0.031362$$

$$= \boxed{3.1362\%}$$

3.1% QUARTERLY

IS THE BETTER

INVESTMENT RATE.

- (2 points) How much would you have to invest into a 5-year certificate of deposit paying 2.3% compounded weekly (52 weeks per year) to make it worth \$4500 at the end of the term?

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

$$P = \frac{4500}{\left(1 + \frac{0.023}{52}\right)^{(52)(5)}} = \boxed{\$4011.25}$$