Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Lesson 8.8 Compound Interest

Compound interest is when interest earns interest.

**Formula: A = P(1 +** $\frac{r}{n}$**)nt**

**A = amount in account**

**P = principal (amount invested)**

**r = interest rate**

**t = time in years**

**n = number of times per year**

1. Invest $1200 at 8% for 15 years.
2. Annually
3. Semi-annually
4. Quarterly
5. monthly
6. How much more money would you have if you invest $5000 at 3% monthly versus semi-annually?
7. How much money will you have in your account after 10 years if you invest $7500 at 4.25% compounded quarterly? How much will you have earned in interest? After how many years will you have doubled your money?
8. Invest $50 at 1.5% interest compounded monthly for 6 years. How much interest was earned?
9. If you invest $100 at 1% compounded quarterly in 2020, how much will it be worth in 2050?

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Algebra 1 8.8 Day 1 HW

1. In 2020 you invest $3000 at 2% compounded annually. How much is in the account:
2. In 2025 B. In 2062
3. You invest $250 for 15 years. How much will you have if it is compounded at 6%
4. Annually B. semi-annually

C. quarterly D. monthly

1. You invest $500 at 2.5% compounded semiannually. How much interest will you have earned after 8 years? After how many years will you have doubled your money?
2. How much more money will you have after 20 years if you invest $5000 compounded monthly versus annually at 4.5%?
3. If you invest $400 at 1.75% compounded semiannually in 2019, how much will it have earned in interest in 2035?
4. Invest $650 at 3.25% compounded quarterly for 18 years. How much is in your account?

Mixed review:

|  |  |  |
| --- | --- | --- |
| 1. (b2x)5
 | 1. (b2x)(b5)
 | 1. $\frac{b^{2x}}{b^{5}}$
 |
| 1. solve:

36x = 8112 | 1. write with one exponent:

125a6b3 | 1. (3x)2(4x5)2
 |
| 1. $\frac{4a^{5}b^{-2}c^{3}d^{8}}{12a^{-5}b^{-2}c^{5}d^{2}}$
 | 1. (2x3)(-xy5)(6x5y-7)
 | 1. (-6x8)2
 |