Simple Interest & Compound Interest

Name: Key

7th Grade Math

For 1–10, use simple interest to find the ending balance for the odds and compound interest for the evens. Show all of your work.

1) $34,100 at 4% for 3 years

$I = \$34,000 \cdot .04 \cdot 3$

$I = \$4,092$

Balance $= \$34,100 + \$4,092$

$= \$38,192$

2) $34,100 at 4% for 3 years (Compound)

Balance $= \$34,100\,(1.04)^3$

$B = \$38,357.86$

3) $4,000 at 3% for 4 years

$I = \$4,000 \cdot .03 \cdot 4$

$I = \$480$

Balance $= \$4,000 + \$480$

$= \$4,480$

4) $4,000 at 3% for 4 years (Compound)

Balance $= \$4,000(1.03)^4$

$B = \$4,502.04$

5) $14,000 at 6% for 9 years

$I = \$14,000 \cdot .06 \cdot 9$

$I = \$7,560$

Balance $= \$14,000 + \$7,560$

$= \$21,560$

6) $ 14,000 at 6% for 9 years (Compound)

Balance $= \$14,000(1.06)^9$

$B = \$23,652.71$

7) $43,800 at 4.8% for 2 years

$I = \$43,800 \cdot .048 \cdot 2$

$I = \$4,204.8$

Balance $= \$43,800 + \$4,204.8$

$= \$48,004.8$

8) $43,800 at 4.8% for 2 years (Compound)

Balance $= \$43,800(1.048)^2$

$B = \$\$48,105.72$

9) $7,400 at 10.5% for 3 years

$I = \$7,400 \cdot .105 \cdot 3$

$I = \$2,331$

Balance $= \$7,400 + \$2,331$

$= \$9,731$

10) $ 7,400 at 10.5% for 3 years (Compound)

Balance $= \$7,400(1.105)^3$

$B = \$9,984.32$

Complete the following problems. Show all your work!

11) Lauren deposits $320 into an account that earns 4% simple interest per year. What is the total amount in the account after 3 years?

$I = \$320 \cdot .04 \cdot 3$

$I = \$38.4$

Balance $= \$320 + \$38.4 = \boxed{\$358.4}$

12) You have $550 in saving account that earns 3% simple interest each year. How much will be in your account in 10 years?

$I = \$550 \cdot .03 \cdot 10$

$I = \$165$

Balance $= \$550 + \$165 = \boxed{\$715}$

13) Alec borrowed 2,000 from the bank at rate of 7% simple interest per year. How much interest did he pay in 5 years?

$I = \$2,000 \cdot .07 \cdot 5$

$I = \boxed{\$700}$

14) Kelly plans to put her graduation money into an account and leave it there for 4 years while she goes to college. She receives $750 in graduation money and puts it into an account that earns 4.25% interest. How much will be in Kelly's account at the end of the four years?

Simple

$I = \$750 \cdot .0425 \cdot 4$

$I = \$127.5$

Balance $= \$750 + \$127.5 = \boxed{\$877.5}$

Compound

$B = \$750(1.0425)^4$

$B = \boxed{\$885.86}$

15) To buy a computer, Raquel borrowed $3,000 at a simple interest rate of 9% for 4 years. How much money did she have to pay back?

$I = \$3,000 \cdot .09 \cdot 4$

$I = \$1,080$

Balance $= \$3,000 + \$1,080 = \boxed{\$4,080}$

16) Jodi owes $38,000 in student loans for college. The simple interest rate is 7.25% and the loan will be paid off in 10 years. How much will Jodi pay altogether?

$I = \$38,000 \cdot .0725 \cdot 10$

$I = \$27,550$

$I = \$38,000 + \$27,550 = \boxed{\$65,550.}$