

Example 1: Nidaa invests \$2000 into an account that pays 5% simple interest per year. Determine by filling out the chart below, how much she will have in her account in 4 years if she makes no other deposits.

Year	Interest	Amount
0	100	2000
1	100	2100
2	100	2200
3	100	2300
4	100	2400

Simple Interest Formulas

Imp

$$I = Prt \quad (P+r+t) \quad \text{or} \quad t = \frac{I}{Pr}$$

$$I = \text{interest} \quad \text{or} \quad r = \frac{I}{Pt}$$

$$P = \text{principal} \quad \text{or} \quad P = \frac{I}{rt}$$

$$t = \text{time}$$

$$r = \text{interest rate as a decimal}$$

Final amount

$$A = P + I$$

$$A = P + Prt$$

$$A = P(1+rt)$$

$$\text{or} \quad r = \frac{(A-P)}{Pt}$$

$$\text{Imp} \quad \text{or} \quad t = \frac{(A-P)}{Pr}$$

Example 2: Use the formulas above to check if your answer to example 1 was correct.

$$I = Prt \quad I = 2000 \times 1 \times 0.05 \quad \boxed{I = 100}$$

Example 3: Suppose Eric put \$500 in a bank account that pays 7% simple interest a year.

a) If he keeps his money in the bank for 6 years, how much interest does he make?

$$P = 500 \quad r = 7\% \quad t = 6 \quad \boxed{I = 35} \text{ for one year}$$

$$I = Prt$$

$$I = 500 \times 0.07 \times 6$$

$$I = 210 \text{ for 6 years}$$

b) What is the final amount?

$$A = P + I$$

$$A = 500 + 210$$

$$A = 710$$

Example 4: You borrow \$60 from a relative. They charge you 8% simple interest annually. How much will you owe them, if you pay back your load after 1 year?

$$P = \$60 \quad r = 8\%$$

$$A = P + Prt$$

$$A = 60 + 60 \times 0.08 \times 1$$

$$A = \$64.8$$