

4C: Savings Plans and InvestmentsClass Prep AssignmentDue at the beginning of next class

You will need to use Microsoft Excel or Google Sheets while you watch these videos. You can use a computer, tablet or smart phone with the Google Sheets App.

Future Value Formula
$$=FV(\text{rate}, \text{nper}, \text{pmt}, [\text{pv}], [\text{type}])$$
Present Value Formula
$$=PV(\text{rate}, \text{nper}, \text{pmt}, [\text{fv}], [\text{type}])$$
Saving with an initial deposit and/or monthly payments.

Example 1. Write the formula used and the inputs in proper syntax. Answer each question with a complete sentence, including units.

a. You want to save \$100 per month at an annual rate of 8% interest. How much will you have after 15 years?

b. You want to save \$1000 now and \$50 per month for 10 years. How much will you have if you find an account with 7% interest?

Payment Formula
$$=PMT(\text{rate}, \text{nper}, \text{pv}, [\text{fv}], [\text{type}])$$

Example 2. Write the formula used and the inputs in proper syntax. Answer each question with a complete sentence, including units.

a. You want to save \$30,000 for the down payment on a house in 5 years at an annual rate of 5% interest. How much do you need to set aside per month?

b. Your company needs \$2,000,000 for an expansion project in 5 years. How much should be deposited quarterly in an account that earns 8% interest compounded quarterly?

4D: Loan Payments, Credit Cards and Mortgages

Example 3. Write the formula used and the inputs in proper syntax. Answer each question with a complete sentence, including units.

a. You graduate with \$25,000 in student loans and want to pay it off in 10 years. The interest is 4.45%. What is your monthly payment?

b. You have a credit card balance of \$3,500 with 22% annual interest. If you want to pay it off in 3 years, how much do you need to pay per month? (Assuming you do not charge any more to the account.) How much interest would you have paid on this balance?

Down Payments

1. You are saving for your 3-year old child's college fund and you want to put in \$2500 now and make payments of \$50 per month for 15 years at 5.2% interest. How much will you have saved in 15 years? Show any calculations and Excel formulas used.

2. You want to buy a car for \$11,000 and you trade in your old car for \$1500, which acts as a down payment. The car loan interest rate is 2.74%. What will your monthly payments be if you choose a 2-year, 3-year or 4-year loan? Show any calculations and Excel formulas used.

2-year:

3-year:

4-year: