

As you get older you will start earning money and paying taxes. Among the three major taxes that many people pay are income taxes, sales taxes, and property taxes.

An **income tax** is a percent of earnings paid to federal, state, or local governments.

A **sales tax** is a percent of the cost of a purchase.

A **property tax** is the percent of the value of the property owned.

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| 1. | Suppose a family earns total wages of \$800 a week and pays state income taxes of 5% on annual earnings. How much will the family pay as state income tax per year? | |
| 2. | Suppose the local government taxes income at 1%. How much additional money will the family pay in taxes to the local government each year? | |
| 3. | What amount of money each week is left after taxes above are paid? | |

In addition to income tax people pay Social Security tax, which is 6.2% of earnings up to \$113,700. In addition to income tax people pay Medicare tax, which is 1.45% on all income.

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| 4. | If you had a taxable income of \$54,000 a year and you pay 22% of your income in federal taxes, how much federal tax would you pay? | | |
| 5. | You have a taxable income of \$400 each week and you pay 14% of your income in federal taxes. How much would your taxable income (income before taxes) be in one year? How much federal income tax would be withheld? | | |
| 6. | If you have a taxable income of \$49,000 a year and you pay 18% of your income in federal taxes, what would be your income after federal tax? | | |
| 7. | The money that is left after taxes are withheld is called take-home pay . Calculate the income taxes, Social Security taxes, and Medicare taxes you would pay on a taxable income of \$49,000. What is your take-home pay? | | |

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| 8. | You buy a llama for a sale price of \$150. If there is 8% sales tax added to the price, what is the total price of the llama? | |
| 9. | You buy a unicorn for a sale price of \$720. If there is a 6% sales tax added to the price, what is the amount of tax added? | |
| 10. | A narwhal is originally priced at \$400, but Discount Narwhals decided to pass along a 35% price increase to the customer. What is the new price? | |
| 11. | Fluffy neon hopping bunnies are originally \$40 each. Then they go on sale a 22% off. You decide to buy two. There is a 22% sales tax on all bunnies. What is your total price, including tax? (nearest cent) | |

The Swift family is examining their personal finances to determine if they can afford to purchase a home. The Swift family has a current monthly net income of \$3185. The Swift family’s monthly expenses are shown below.

| | | |
|--------------------------------|-------------------------|---------------------------------|
| Rent \$900 | Entertainment \$200 | Car insurance \$120 |
| Clothes \$120 | Emergency savings \$100 | Electricity \$122 |
| Car payment \$240 | Restaurants \$175 | Retirement savings \$150 |
| Car expenses/maintenance \$170 | Cell phones \$89 | Home Utilities (Water/Gas) \$52 |
| Groceries \$275 | Miscellaneous \$72 | |

Complete the personal budget for the Swift family in the table below and find the percentage of monthly income going to each category. **You may use a calculator on this page.** Round percentages to the nearest whole percent.

| Swift Family Monthly Budget | | |
|------------------------------------|-------------|---|
| Monthly Net Income | | |
| Expenses | Cost | Percentage of Monthly Net Income |
| Housing | | |
| Food | | |
| Utilities (Electric, Water, Gas) | | |
| Savings | | |
| Transportation | | |
| Other | | |
| Total Expenses | | |

| | | | | |
|----|--|--|--|--|
| 1. | Does the Swift family spend more than they make? Explain. | | | |
| 2. | What percent of the family’s net income is housing currently? | | | |
| 3. | What percent of the family’s net income is transportation? | | | |
| 4. | Assuming all other costs remain the same, will the Swift family be able to afford a monthly house payment of \$1000? \$1200? \$1400? | | | |
| 5. | Calculate the exact amount the family can afford to spend on housing and still break even each month. | | | |
| 6. | Based on the number calculated in the question above, what percent of the net income would be spent on housing? | | | |
| 7. | Fixed expenses are those that remain the same each month. Give two examples of expenses that fixed. | | | |
| 8. | Variable expenses are those expenses that vary from month to month. Give two examples of expenses that vary from month to month. | | | |

The Bieber family is trying to determine their net worth. Net worth is equal to your assets (things you own) minus your liability (things you owe). **Monthly expenses such as utility bills or paying for piano practice are neither an asset nor a liability.**

Use the data below to determine the net worth of the Bieber family. The family has one working parent, a stay-at-home parent and three children. Two of the children are in elementary school and the youngest child is in pre-Kindergarten. They have a house, a car, a mini-van, and carry some credit card debt.

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| The house is valued at \$123,000 with a mortgage balance of \$80,000. |
| The car is worth \$15,000 and the mini-van is worth \$20,000. They owe a total of \$31,000 on the vehicles. |
| The family has \$4500 in brand new household furniture, but they took out a \$4,500 loan to pay for it. |
| They have \$15,000 in their retirement account. |
| They have \$1,500 in emergency savings, \$1,000 in savings, \$500 in checking, and \$1500 in a CD (a type of saving account). |
| They have \$300 in cash. |
| Their balances on credit cards total \$15,000. |
| The family pay \$500 per month for school loans; the current balance is \$25,000. |
| The family pays \$350 a month for pre-K tuition and \$100 a month for each child as they are all on soccer teams. |

| Net Worth Worksheet for the Bieber Family | | | |
|--|--|--------------------------|--|
| Assets | | Liabilities | |
| All bank accounts | | Home mortgage | |
| Retirement accounts | | Auto loan(s) | |
| Cash | | Credit card(s) | |
| Value of home | | Student loan(s) | |
| Value of auto(s) | | Other loan(s) | |
| Value of furniture/household items | | TOTAL LIABILITIES | |
| Value of jewelry/art/etc. | | | |
| TOTAL ASSETS | | | |
| NET WORTH = | | | |

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| 1. | Which items did not count as an asset or a liability? | |
| 2. | Does this family have a positive or negative net worth? | |
| 3. | Determine three suggestions for this family to increase their net worth. | |

Many families in the United States are saving at this very moment to buy a home. Paying 20% of the cost of the home as a down payment is a smart financial decision. However, it often takes a long period of time to save up enough money to make that down payment.

Look at the families listed below. Each is earning interest on their savings. Complete the rest of the table. **You may use a calculator for calculations on this page.**

| | | | |
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| Simple Interest | $I = prt$ | Compound Interest | $A = P(1 + r)^t$ |
| Remember I is the amount of interest | | Remember A is the total amount (principal + interest) | |

| | | Type of interest | Interest Earnings | Total \$ |
|----|--|-------------------------|--------------------------|-----------------------|
| | | | <i>nearest dollar</i> | <i>nearest dollar</i> |
| 1. | Adams family: \$16000 at 5% for 5 years | Simple | | |
| 2. | Bruns family: \$14000 at 3% for 12 years | Simple | | |
| 3. | Cobb family: \$15000 at 4% for 10 years | Simple | | |
| 4. | Daly family: \$17000 at 7% for 4 years | Simple | | |
| 5. | Edmond family: \$11000 at 5% for 13 years | Compound | | |
| 6. | Farmer family: \$13000 at 3% for 10 years | Compound | | |
| 7. | Grizwold family: \$12000 at 6% for 8 years | Compound | | |
| 8. | Hayes family: \$10000 at 10% for 8 years | Compound | | |

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| 9. | Each family above wishes to purchase a \$200,000 home. If they all have \$20,000 savings plus the total amount from above, which families will be able to afford a 20% down payment on their new homes? | |
| 10. | Mary and Macey each invest \$100 at an interest rate of 5% for 8 years. Mary's is simple interest and Macey's is compound interest. Which person will have the most money at the end of 8 years? Why? | |
| 11. | $A = 800(1 + 0.03)^{2.5}$ In the compound interest formula above, what does 800 represent? | |
| 12. | In the problem above, what does 0.03 represent? | |
| 13. | In the problem above, what does 2.5 represent? | |