## Applications

1. Jake and Gloria are married, filing jointly. Their taxable income without deductions was $\$ 120,440$. They were able to reduce their total income by $\$ 25,381$ using Form 1040 and Schedule A. How much did they save in tax by claiming these deductions? Use the tax tables in the Appendix.
2. The Lerners had $x$ dollars in medical expenses. Medical insurance covered $80 \%$ of these expenses, so they had to pay $20 \%$ of the medical bills. The IRS allows medical and dental expenses deductions for the amount that exceeds $7.5 \%$ of a taxpayer's adjusted gross income. Their adjusted gross income was $y$ dollars. Express the amount they can claim as a medical deduction algebraically.
3. Determine the tax for each filing status and taxable income amount listed using the tax tables in the Appendix.
a. single $\$ 97,642$
b. head of household $\$ 95,100$
c. married filing jointly $\$ 99,999$
d. married filing separately $\$ 99,002$
e. Given a taxable income amount $t=\$ 97,226$, express the tax table line that would be used in compound inequality notation.
f. Given the taxable income amount $t=\$ 95,656$, express the tax table line that would be used in interval notation.
4. Use the table to answer the questions below.

Schedule Y-1- If your filing status is Married filing jointly or Qualifying widow(er)

| If your taxable income is: | The tax is: |  |  |
| :---: | :---: | :---: | :---: |
|  |  |  | of the |
|  | But not |  | amount |
| Over- | over- |  | Over- |
| \$0 | \$16,050 | 10\% | \$0 |
| 16,050 | 65,100 | \$1,605.00 + 15\% | 16,050 |
| 65,100 | 131,450 | $8,962.50+25 \%$ | 65,100 |
| 131,450 | 200,300 | 25,550.00 + 28\% | 131,450 |
| 200,300 | 357,700 | 44,828.00 + 33\% | 200,300 |
| 357,700 | .......... | 96,770.00 + 35\% | 357,700 |

a. What is the tax for taxpayers filing jointly with a combined tax. able income of $\$ 134,786$ ?
b. A married couple's tax is approximately $\$ 30,000$. What is their approximate taxable income?
5. Let $x$ represent the taxpayer's taxable income and $y$ represent the tax. Express the line of the worksheet below as a linear equation in $y=m x+b$ form. Use interval notation to define the income range on which each of your equations is defined.

Section D - Use if your filing status is Head of household. Complete the row below that applies to you.
$\left.\begin{array}{|l|c|c|c|c|c|}\hline & \begin{array}{c}\text { (a) } \\ \text { Taxable income. } \\ \text { If line } 43 \text { is }-\end{array} & \begin{array}{c}\text { (b) } \\ \text { Enter the amount } \\ \text { from line } 43\end{array} & \begin{array}{c}\text { (c) } \\ \text { Multiplication } \\ \text { amount }\end{array} & \begin{array}{c}\text { (d) } \\ \text { Multiply } \\ \text { (a) by (b) }\end{array} & \begin{array}{c}\text { Tax } \\ \text { Subtraction } \\ \text { amount }\end{array}\end{array} \begin{array}{c}\text { Subtract (d) from (c). } \\ \text { Enter the result here and } \\ \text { on Form 1040, line 44 }\end{array}\right]$
6. Write a piecewise function to represent the tax $y$ for the taxable income interval in the schedule below for a taxpayer whose filing status is married filing separately.

Schedule Y-2- If your filing status is Married filing separately

| If your taxable income is: <br> Over- | The tax is: |  |  |
| :---: | :---: | :---: | :---: |
|  | But not over- |  | of the amount over- |
| \$0 | \$8,025 | ... 10\% | \$0 |
| 8,025 | 32,550 | \$802.50 + 15\% | 8,025 |
| 32,550 | 65,725 | 4,481.25 + 25\% | 32,550 |
| 65,725 | 100,150 | 12,775.00 + 28\% | 65,725 |
| 100,150 | 178,850 | 22,414.00 + 33\% | 100,150 |
| 178,850 | .......... | 48,385.00 + 35\% | 178,850 |

7. Ann's $W-2$ form reported total Medicare Wages as $\$ 88,340$. She contributed $\$ 50$ per weekly paycheck to her FSA and $\$ 90$ per weekly paycheck to her retirement plan. She received a 1099 form from her bank for her savings account interest in the amount of $\$ 800$ and a 1099 form from a book publisher for royalties in the amount of $\$ 3,700$. What is Ann's adjusted gross income?
8. Mike pays $\$ 8,000$ in property taxes, but receives a $28 \%$ tax deduction for it. What is Mike's net expense for property taxes?
