



Worksheet: Calculating Marginal vs. Average Taxes

Worksheet, with answers (Teacher Copy)

Federal Tax Brackets and Rates in 2011 for Single Persons

<u>From:</u>	<u>To:</u>	<u>Taxed at Marginal Rate of:</u>
\$0	\$8,500	10%
\$8,501	\$34,500	15%
\$34,501	\$83,600	25%
\$83,601	\$174,400	28%
\$174,401	\$379,150	33%
\$379,151+		35%

Directions: Answer the following questions using the 2011 U.S. marginal income tax rates for a single individual.

If Jaime earns \$10,000 from a job that he works after school and during the summer, how much federal income tax does he owe given the table above?

$$(\$8,500 \times .10) + (\$10,000 - \$8,500 \times .15), \text{ or} \\ (\$850 + \$225) = \$1,075 \text{ owed in taxes}$$

What is Jaime's marginal tax rate, that is on the highest dollar?

15%. This means that Jaime is in the "15% tax bracket."

What is Jaime's average tax rate?

This is $\$1,075 \div \$10,000 = 10.75\%$. Jaime's average tax rate (liability) is less than is marginal tax rate because not every dollar of income was taxed at the highest rate. The first \$8,500 was taxed at 10% and the next \$1,500 was taxed at 25%.

Suppose the personal exemption for Jaime is \$3,700. How much federal tax would he owe?

$$\text{Taxable income} = (\$10,000 - \$3,700) = \$6,300$$

How does this change Jaime's marginal tax rate? Average tax rate? How much taxes does he now owe?

Jaime's marginal tax rate is now 10% for all of his taxable income.

$(\$6,300 \times .10) = \630 owed in taxes.

Jaime's new average tax rate is $= \$630/\$6,300$ or 10%, equal to his marginal rate because all of his taxable income is in the lowest tax bracket.

If Tameka earns \$50,000 from her job as an accountant, how much federal income tax does she owe based on the above table?

- Tameka's first \$8,500 is taxed at 10%
- Tameka's next $(\$34,500 - \$8,500)$ or \$26,000 is taxed at 15%
- Tameka's last $(\$50,000 - \$34,500)$ or \$15,500 is taxed at 25%

$(\$8,500 \times .10) + (\$26,000 \times .15) + (\$15,500 \times .25)$
 $(\$850 + \$3,900 + \$3,875) = \$8,625$ owed in taxes

What is Tameka's marginal tax rate, that is, on the highest dollar?

25%. This means that Jaime is in the "25% tax bracket."

What is Tameka's average tax rate?

This is $\$8,625 \div \$50,000 = 17.25\%$. Tameka's average tax rate (liability) is less than is marginal tax rate because not every dollar of income was taxed at the highest rate. The first \$8,500 was taxed at 10%, the next \$26,000 was taxed at 25%, and the final \$3,875 was taxed at 25%.

Suppose the personal exemption for Tameka is \$3,700 for herself and \$3,700 for each of her 3 children. How much federal tax would he owe?

Taxable income $= (\$50,000 - \$3,700 \times 4) = (\$50,000 - \$14,800) = \$35,200$.

How does this change Tameka's marginal tax rate? What is her new average tax rate? How much in taxes does she now owe?

Tameka's marginal tax rate for \$35,200 is now just 15%. Her tax liability is also less because of the exemptions:

$(\$8,500 \times .10) + (\$26,700 \times .15)$
 $(\$850 + \$4,005) = \$4,855$ owed in taxes

Her new average tax rate is $= \$4,855/\$35,200$ or 13.8%, less than her marginal tax rate.

Note: Upon completing her income tax forms, Tameka would find that her tax bill would be reduced even further (lower than \$4,855) when she includes the allowed federal standard deduction or alternatively if she itemizes deductions.