

Chapter 12

1. a. Fill out the table below assuming that the government taxes 20 percent of the first €30,000 of income and 50 percent of all income above €30,000.

Income	Taxes Paid	Average Tax Rate	Marginal Tax Rate
€10,000	_____	_____	_____
20,000	_____	_____	_____
30,000	_____	_____	_____
40,000	_____	_____	_____
50,000	_____	_____	_____

Answer:

Income	Taxes Paid	Average Tax Rate	Marginal Tax Rate
€10,000	€2,000	20%	20%
20,000	4,000	20	20
30,000	6,000	20	20
40,000	11,000	27.5	50
50,000	16,000	32	50

- b. Compare the taxes for someone earning €10,000 to those of someone earning €50,000 in part (a) above. Is this tax system progressive, regressive, or proportional? Explain.

Answer:

Progressive because the average tax rate for a person earning €50,000 exceeds the average tax rate for a person earning €10,000. That is, the rich pay a larger fraction of their income than do poor people.

2. a. Fill out the table below assuming that the government imposes a lump-sum tax of €6,000 on all individuals.

Income	Taxes Paid	Average Tax Rate	Marginal Tax Rate
€10,000	_____	_____	_____
20,000	_____	_____	_____
30,000	_____	_____	_____
40,000	_____	_____	_____
50,000	_____	_____	_____

Answer:

Income	Taxes Paid	Average Tax Rate	Marginal Tax Rate
€10,000	€6,000	60%	0%
20,000	6,000	30	0
30,000	6,000	20	0
40,000	6,000	15	0
50,000	6,000	12	0

- b. Compare the taxes for someone earning €10,000 to those of someone earning €50,000 in part (a) above. Is this tax system progressive, regressive, or proportional? Explain

Answer:

Regressive because the average tax rate for a person earning €10,000 exceeds the average tax rate for a person earning €50,000. That is, the poor pay a larger fraction of their income than do rich people.

3. a. Fill out the table below assuming that the government taxes 20 percent of all income.

Income	Taxes Paid	Average Tax Rate	Marginal Tax Rate
€10,000	_____	_____	_____
20,000	_____	_____	_____
30,000	_____	_____	_____
40,000	_____	_____	_____
50,000	_____	_____	_____

Answer:

Income	Taxes Paid	Average Tax Rate	Marginal Tax Rate
€10,000	€2,000	20%	20%
20,000	4,000	20	20
30,000	6,000	20	20
40,000	8,000	20	20
50,000	10,000	20	20

- b. Compare the taxes for someone earning €10,000 to those of someone earning €50,000 in part (a) above. Is this tax system progressive, regressive, or proportional? Explain.

Answer:

Proportional because the average tax rate for a person earning €10,000 is equal to that of a person earning €50,000.

4. a. Fill out the table below assuming that the government taxes 40 percent of the first €10,000 of income and 10 percent of all income above €10,000.

Income	Taxes Paid	Average Tax Rate	Marginal Tax Rate
€10,000	_____	_____	_____
20,000	_____	_____	_____
30,000	_____	_____	_____
40,000	_____	_____	_____
50,000	_____	_____	_____

Answer:

Income	Taxes Paid	Average Tax Rate	Marginal Tax Rate
€10,000	€4,000	40%	10%
20,000	5,000	25	10
30,000	6,000	20	10
40,000	7,000	17.5	10
50,000	8,000	16	10

- b. Compare the taxes for someone earning €10,000 to those of someone earning €50,000 in part (a) above. Is this tax system progressive, regressive, or proportional? Explain.

Answer:

Regressive because the average tax rate for a person earning €10,000 is greater than that of a person earning €50,000.

5. a. Suppose the only objective of the tax system is to collect €6,000 from people who earn €30,000. Which of the tax systems described in questions 1 through 4 is best? Why?

Answer:

They are all equally suitable because each system generates €6,000 tax revenue from people earning €30,000.

- b. Suppose the only objective of the tax system is to be efficient. Which of the tax systems described in questions 1 through 4 is best? Why?

Answer:

Taxes are more efficient if they generate smaller deadweight losses and smaller administrative burdens. The lump-sum tax in question 2 has a zero marginal rate so it does not distort economic decision making (no deadweight loss) and it is simple (small administrative burden), therefore it is most efficient. However, it is regressive.

- c. Suppose the only objective of the tax system is to be vertically equitable based on the ability-to-pay principle. Which of the tax systems described in questions 1 through 4 is best? Why?

Answer:

The tax system in question 1 because it is the only one that is progressive.