

Question 1: Score 0/1

Read Example 3.1.1 and determine how long (in years) it will take Bob to save 30,000 dollars if he starts out with 10,000 dollars and earns 4 simple interest per year. Give your answer in decimal years, and give one decimal digit of precision.

**Your Answer:****Correct Answer:** 50±0.1**Question 2: Score 0/1**

How much state income tax does a Michigan family with 2 minor children have to pay in 2006 on an income subject to taxes of 30,000 dollars? You will have to look up some parameter values from the chapter. You may round to the nearest dollar.

**Your Answer:****Correct Answer:** 639.6±1**Question 3: Score 0/1**

Suppose that Massachusetts charges a flat income tax rate of 4.1 percent during the year 2006. The exemption for a family with two minor children is 11,200 dollars. Compute how much such a family would have to pay on an income of 70,000 dollars. You may round to the nearest dollar.

**Your Answer:****Correct Answer:** 2,410.8±1**Question 4: Score 0/1**

A principle of 5,500 dollars was invested at an annual rate of 3.25 percent. The interest was computed as simple interest. What was the balance after 3 years? You may round to the nearest dollar.

**Your Answer:****Correct Answer:** 6,036.25±1**Question 5: Score 0/1**

What interest rate is needed for a principal of 20,500 dollars to grow to 24,343.75 dollars in 2.5 years if the interest is computed as simple interest? Give your answer in percent, and give two decimal digits of precision.

**Your Answer:****Correct Answer:** 7.5±0.01**Question 6: Score 0/1**

What principal investment is needed if it is supposed to grow to 22,678.125 dollars in 2.5 years if the interest is computed as 4.25 percent simple interest? Give your answer in dollars; you may round to the nearest dollar.

**Your Answer:****Correct Answer:** 20,500±1**Question 7: Score 0/2**

Consider the following data:

Hours worked	2	3	5	10
Dollars earned	29	43.5	72.5	145

We are used to dollars and hours having a certain relationship, but they might not because of piecework payments, etc. Answer the following questions:

(a)

The quantities are linearly related.

**Your Answer:****Correct Answer:** True

(b)

The quantities are directly proportional.

**Your Answer:****Correct Answer:** True

Question 8: Score 0/2

Consider the following data:

Hours worked	2	3	5	10
Dollars earned	27	37	65	127

We are used to dollars and hours having a certain relationship, but they might not because of piecework payments, etc. Answer the following questions:

(a)

The quantities are linearly related.



INCORRECT

Your Answer:

Correct Answer: False

(b)

The quantities are directly proportional.



INCORRECT

Your Answer:

Correct Answer: False

Question 9: Score 0/2

Consider the following data:

Hours worked	2	3	5	10
Dollars earned	25.75	38.5	64	127.75

We are used to dollars and hours having a certain relationship, but they might not because of piecework payments, etc. Answer the following questions:

(a)

The quantities are linearly related.



INCORRECT

Your Answer:

Correct Answer: True

(b)

The quantities are directly proportional.



INCORRECT

Your Answer:

Correct Answer: False

Question 10: Score 0/5

Again consider example 3.1.1.

(a)

How long will it take Bob to save a total of 22,000 dollars if he starts out with 11,000 dollars and earns 4.25 percent simple interest per year? Give your answer in decimal years, with one decimal digit of precision.



INCORRECT

Your Answer:

Correct Answer: 23.529412±0.1

(b)

How long will it take Bob to save a total of 24,000 dollars if he starts out with 12,000 dollars and earns 4.25 percent simple interest per year? Give your answer in decimal years, with one decimal digit of precision.



INCORRECT

Your Answer:

Correct Answer: 23.529412±0.1

(c)

Based on these results, we see that the time to double an investment does not change with the size of the investment.



INCORRECT

Your Answer:

Correct Answer: True

- (d) Bob has a long term investment at 3.25 percent simple interest per year. He starts out with a principal of 15,000 dollars. The money will have doubled after 30.769231 years. If he keeps it in the same account (doesn't reinvest what he earned so far) and he waits another 30.769231 years, will it have doubled again?



Your Answer:

Correct Answer: False

- (e) The answer to part (d) contradicts the answer to part (c).



Your Answer:

Correct Answer: False
