4.1 Application Problems

6th Work on odd # questions

Solve.

1. A total of $5000 is deposited into two simple interest accounts. On one account the annual simple interest rate is 8%, while on the second account the annual simple interest rate is 12%. How much should be invested in each account so that the total annual interest earned is $520?

8% : $2000
12% : $3000

2. An investment club invested a part of $10,000 in a 9.5% annual simple interest account and the remainder in a 14% annual simple interest account. The amount of interest earned for one year was $1085. How much was invested in each account?

3. An investment of $4000 is made at an annual simple interest rate of 12%. How much additional money must be invested at an annual simple interest rate of 8% so that the total interest earned is 10% of the total investment?

$4000 more at 8%

4. An investment of $3500 is made at an annual simple interest rate of 9%. How much additional money must be invested at an annual simple interest rate of 13% so that the total interest earned is 11% of the total investment?

5. A total of $4000 is invested into two simple interest accounts. On one account the annual simple interest rate is 12%, while on the second account the annual simple interest rate is 8%. How much should be invested in each account so that the interest earned by each account is the same?

12% : $1600

6. An investment advisor deposited a total of $6000 into two money market funds. One fund earns 14% annual simple interest, while a second tax-free fund earns 7% annual simple interest. How much must be invested in each fund so that the interest earned by each is the same?

7. An accountant deposited an amount of money into a 12% annual simple interest account. Another deposit, $2000 more than the first, was placed in a 9.8% annual simple interest account. The total interest earned on both investments for one year was $741. How much money was deposited in the 12% account?

$2500 at 12%

8. A deposit was made into a 6% annual simple interest savings account. Another deposit, $3500 less than the first, was placed in a 10% annual simple interest bond market account. The total interest earned on both accounts for one year was $450. How much money was deposited in the 6% account?

Solve.

9. An investment of $12,000 is made into a 10.5% simple interest account. How much additional money must be deposited into an 8% simple interest account so that the total interest earned on both accounts is 9.5% of the total investment?

$8000 make at 8%

10. To provide for retirement income, an engineer purchases a $10,000 bond. The simple interest rate on the bond is 8.5%. How much money must be invested in additional bonds which have an interest rate of 9.25% so that the total interest earned each year is $2700?

11. A stock broker's client has $25,000 to invest. The broker recommends that part of the $25,000 be placed in 7.5% tax-free municipal bonds and the remainder in 11.25% commercial bonds. How much should be invested in each type of bond so that the total interest earned is $2250?

$ ~~+5,000~~
15,000 at 7.5%

12. A corporation gave a university $250,000 to support research assistants in science. The university deposited some of the money in a 12% simple interest account and the remainder in a 10.5% simple interest account. How much should be deposited in each so that the total interest earned is $28,875?

13. The manager of a trust decided to invest 60% of a client's account in stocks which earn 6% simple interest. The remainder was invested in a tax shelter which earns 8% simple interest. The annual interest earned from the investments was $1632. What was the total amount invested?

total $24,000

14. The portfolio manager for a corporation invested 75% of the company's investment account in 12.5% short term certificates. The remainder was invested in 10% corporate bonds. The annual interest earned from the two investments was $47,500. What was the total amount invested?

15. A financial manager recommended an investment plan in which 20% of a client's cash be placed in a 7% simple interest account, 40% be placed in 10% high grade bonds, and the remainder in a 13% high-risk investment. The total interest earned from the investments would be $5300. What is the total amount to be invested?

$150,000

16. An investment company deposited 70% of its investment capital in a 9.8% simple interest account. The remainder was deposited in a 11.5% simple interest account. The total interest earned from the investments was $46,395. How much was invested in each account?