

1. On the first floor of a building, you find a panel on which there are three switches, one of which controls an outlet into which a lamp is plugged in a room on the second floor of the building. If you cannot see the room from your position by the panel and assuming that the lamp is in the on position, only needing the current to be enabled by the correct switch on the panel before you, how do you determine which switch controls the lamp without ever going downstairs once you have entered the room?
2. "Finished files are the result of years of scientific study and a lot of common sense." How many times does the letter "f" appear in that sentence?
3. Kay Parsons invests a sum of money in municipal bonds paying 6% annual interest. She then decides to invest \$500 more than the sum originally invested in a real estate venture paying 10% annual interest. If her total annual interest from both investments is \$210, how much did she invest in each venture?
4. Peter invested \$5,000 at 8% interest. How much additional money should he invest at 10% in order to earn the same amount of annual interest that he would if he invested both amounts at 9%?
4. Steve saves \$18 each week from his salary. He already has accumulated \$324. In how many weeks will Steve accumulate \$468?
5. One evening, a movie theater sold 450 tickets to an early evening show, receiving \$2,625 in proceeds for the performance. If children's tickets were \$4 each and adult tickets were \$6.75 each, how many children's tickets and how many adult tickets were sold?
6. While shopping at *Macy's* during the Fall Sale, you find an item that has been marked down three times, by 20%, then by 25%, and finally by 40%. Since you have a 35% off coupon from the newspaper, you decide to buy the item. If you pay \$35.10 for this nontaxable item, what was the original price?
7. Marilyn deposits \$160 in her checking account. The number of \$5 bills that she deposited was 3 more than the number of \$10 bills that she deposited, and the number of \$1 bills that she deposited was 30 more than the number of \$5 bills that she deposited. How many bills of each type did Marilyn deposit?
8. On a 10-day trip, you rent a car at a weekend rate of \$31 per day and a weekday rate of \$40 per day. If your rental bill was \$364, how many days did you rent the car at each rate?
9. Janine wins \$40,000 playing *Jeopardy*. After paying 30% of her winnings as income tax, she invests the remaining amount in two ways: part in bonds paying 9.25% annually, and the rest in mutual funds paying 7% annually. If she earns \$2,329 annual interest, how much did she invest in each way?
10. Phil had \$20,000, part of which he invested at 8% interest and the rest at 6%. If his total annual income from the two investments is \$1,460, how much did he invest at each rate?
11. Lynn made two investments totaling \$25,000. She made an 18% profit on one investment but she took an 11% loss on the other investment. If her net gain was \$2,180, how much did she invest at each rate?
12. Mariel invests her \$25,000 savings in two ways: part in bonds paying 7.25% annually and the rest in mutual funds promising a 9% annual return. If her total annual income from these investments is \$2,040, how much did she invest in each way?