Problem Solving

8-2 Proportions

Write the correct answer.

1. For most people, the ratio of the length of their head to their total height is 1:7. Use proportions to test your measurements and see if they match this ratio.

2. The ratio of an object’s weight on Earth to its weight on the Moon is 6:1. The first person to walk on the Moon was Neil Armstrong. He weighed 165 pounds on Earth. How much did he weigh on the Moon?

3. It has been found that the distance from a person’s eye to the end of the fingers of his outstretched hand is proportional to the distance between his eyes at a 10:1 ratio. If the distance between your eyes is 2.3 inches, what should the distance from your eye to your outstretched fingers be?

4. Chemists write the formula of ordinary sugar as \( C_{12}H_{22}O_{11} \), which means that the ratios of one molecule of sugar are always 12 carbon atoms to 22 hydrogen atoms to 11 oxygen atoms. If there are four sugar molecules, how many atoms of each element will there be in 4 molecules of sugar?

5. According to doctors, a healthy diet should follow the ratio for meat to vegetables of 2.5 servings to 4 servings. If you eat 7 servings of meat a week, how many servings of vegetables should you eat?

6. A 150-pound person will burn 100 calories while sitting still for one hour. Following this ratio, how many calories will a 100-pound person burn while sitting still for one hour?

Circle the letter of the correct answer.

7. Recently, 1 U.S. dollar was worth 1.58 in euros. If you exchanged $25 at that rate, how many euros would you get?
   - A 39.50 euros
   - B 15.82 euros
   - C 26.58 euros
   - D 23.42 euros

8. Recently, 1 United States dollar was worth 0.69 English pounds. If you exchanged 500 English pounds, how many dollars would you get?
   - F 345 U.S. dollars
   - G 725 U.S. dollars
   - H 500.69 U.S. dollars
   - J 499.31 U.S. dollars