1. Josh has 47 shares of Goodbye Mutual Fund stock. One share was worth $37.75 on Tuesday and $36.85 on Wednesday. What was the percent of loss per share? Find the answer to the nearest tenth of a percent.

2. A pair of gloves was marked down 30%. The store then held a winter clearance sale, and marked down everything in the store an additional 25%. What was the total percent reduction in the original price of the gloves?

3. A rectangular flower bed 3 meters wide and 5 meters long is surrounded by a sidewalk of uniform width. If the area of the sidewalk is 48 square meters, what are the outside dimensions of the sidewalk?

4. An athletic field is 40 yards wide and 90 yards long. If a lawnmower cuts a border around the outside of the field, how wide must the border be so that one-third of the lawn is cut?

5. Annabeth drives 45 miles to work. If she increases her average speed by 5 miles per hour, the time it takes her to drive to work is decreased by 6 minutes. Find her usual average speed.

6. A plane flies at a speed of 800 miles per hour in still air. It takes 15 minutes longer to fly 1260 miles into the wind than it takes to fly 1320 miles with the wind. Find the speed of the wind.

7. Consuelo paid $16.72 for an item which was discounted 24%. What was the price of the item before it was discounted?

8. How much water should be added to 2.2 liters of pure acid in order to obtain a solution that is 55% acid?

9. Imagine you have 6 gallons of fruit punch. It is 25% soda and 75% juice. If you wanted it to contain only 60% juice, how much soda would you have to add?

10. A road repair company has two kinds of patching material, which contain 30% and 60% asphalt. How much of 30% asphalt should be added to 230 kg of the 60% asphalt, so that the mixture contains 42% asphalt?

11. Premium grade apples cost $2.25/lb and fancy apples cost $1.45/lb. How many pounds of premium apples should be mixed with 11 pounds of fancy apples to get a mixture that costs $1.70/lb?

12. French roast coffee costs $5.20/lb and Colombian coffee costs $4.00/lb. How much of each kind should be used for a 100 kilogram mixture that can be sold for $4.72 a kilogram?

13. How should $9000 be divided into two accounts, paying 5.5% and 8% interest, so that the total interest after one year is $630?

14. Two trains left the same station at the same time. Train A traveled north at 28 mph and Train B traveled south at 52 mph. How much time passed before they were 320 miles apart?

15. How many minutes will it take an airplane, flying at 370 mph, to intercept another airplane that is 95 miles away, if the second airplane is heading toward the first at 200 mph?

16. Jason forgot that his bicycle was locked up at school. So he ran to the school to get the bicycle, and then rode it back home. His running speed was 6 mph and his riding speed was 18 mph. Find the distance between his home and school, if the round trip took 20 minutes.

17. Freddie walks to the top of a hill, then rides his skateboard back down. He walks at 4 mph and skateboards at 10 mph. If it takes $\frac{1}{2}$ hour less time to go down the hill, find out how much time Freddie spends walking.

18. A police car receives a radio call to catch a vehicle that is speeding down the highway at 70 mph. The police car, which is 14 miles behind the vehicle, drives after it at 98 mph. How long will it take for the police car to overtake the vehicle?

19. Thirty minutes after Eileen leaves on a bicycle trip, her brother gets in a car and drives after her. Eileen rides at average rate of 16 kph, and her brother drives the car at 48 kph. How long will it take for him to catch up?

Answer List

1. 2.4%
2. 47.5%
3. 7 m by 9 m
4. 5 yd
5. 45 mph
6. 80 mph
7. $22
8. 1.8 L
9. 1.5 gal
10. 345 kg
11. 5 lb
12. 60 kg–F, 40 kg–C
13. 5400–8%, 3600–5.5%
14. 4 hrs
15. 10
16. 1.5 mi
17. $\frac{5}{6}$ hr
18. $\frac{1}{2}$ hr
19. $\frac{1}{4}$ hr