

Systems of Equations
Integers, Fundraisers, Home Improvements, Ticket Sales, & Transportation
Unit 5: Real World Applications

Solve each question. Round your answer to the nearest hundredth when needed.

1. Find the value of two numbers if their sum is 15 and their difference is 1.
2. The difference of two numbers is 5. Their sum is 21. Find the numbers.
3. Find the value of two numbers if their sum is 20 and their difference is 4.
4. The difference of two numbers is 4.8. Their sum is 23. What are the numbers?
5. Cory and Audrey are selling cheesecakes for a school fundraiser. Customers can buy French silk cheesecakes and chocolate marble cheesecakes. Cory sold 1 French silk cheesecake and 5 chocolate marble cheesecakes for a total of \$111. Audrey sold 11 French silk cheesecakes and 13 chocolate marble cheesecakes for a total of \$381. Find the cost each of one French silk cheesecake and one chocolate marble cheesecake.
6. Mark and Gracey are selling pies for a school fundraiser. Customers can buy apple pies and pumpkin pies. Mark sold 6 apple pies and 13 pumpkin pies for a total of \$210. Gracey sold 3 apple pies and 13 pumpkin pies for a total of \$183. Find the cost each of one apple pie and one pumpkin pie.
7. Elisa and Lisa are selling fruit for a school fundraiser. Customers can buy small boxes of grapefruit and large boxes of grapefruit. Elisa sold 12 small boxes of grapefruit and 1 large box of grapefruit for a total of \$100.30. Lisa sold 12 small boxes of grapefruit and 11 large boxes of grapefruit for a total of \$251.30. What is the cost for each of one small box of grapefruit and one large box of grapefruit?
8. Amy and Emily are selling wrapping paper for a school fundraiser. Customers can buy rolls of plain wrapping paper and rolls of shiny wrapping paper. Amy sold 8 rolls of plain wrapping paper and 5 rolls of shiny wrapping paper for a total of \$71. Emily sold 7 rolls of plain wrapping paper and 11 rolls of shiny wrapping paper for a total of \$108.50. Find the cost each of one roll of plain wrapping paper and one roll of shiny wrapping paper.
9. Kevin and John each improved their yards by planting grass sod and ornamental grass. They bought their supplies from the same store. Kevin spent \$100 on 6 ft^2 of grass sod and 5 bunches of ornamental grass. John spent \$132 on 2 ft^2 of grass sod and 14 bunches of ornamental grass. What is the cost of one ft^2 of grass sod and the cost of one bunch of ornamental grass?

10. Shanice and Kayla each improved their yards by planting hostas and shrubs. They bought their supplies from the same store. Shanice spent \$96 on 6 hostas and 3 shrubs. Kayla spent \$175 on 5 hostas and 12 shrubs. Find the cost of one hosta and the cost of one shrub.

11. Scott and Travis each improved their yards by planting rose bushes and shrubs. They bought their supplies from the same store. Scott spent \$54.58 on 2 rose bushes and 4 shrubs. Travis spent \$179.14 on 10 rose bushes and 12 shrubs. Find the cost of one rose bush and the cost of one shrub.

12. Shayna and Paul each improved their yards by planting rose bushes and ivy. They bought their supplies from the same store. Shayna spent \$180.40 on 14 rose bushes and 10 pots of ivy. Paul spent \$75.40 on 7 rose bushes and 3 pots of ivy. What is the cost of one rose bush and the cost of one pot of ivy?

13. The school that Kaiden goes to is selling tickets to a play. On the first day of ticket sales the school sold 3 senior citizen tickets and 3 child tickets for a total of \$66. The school took in \$100 on the second day by selling 9 senior citizen tickets and 2 child tickets. What is the price for one senior citizen ticket and one child ticket?

14. Adam's school is selling tickets to a play. On the first day of ticket sales the school sold 7 adult tickets and 14 student tickets for a total of \$147. The school took in \$127 on the second day by selling 7 adult tickets and 9 student tickets. Find the price of an adult ticket and the price of a student ticket.

15. The school that Eduardo goes to is selling tickets to the annual dance competition. On the first day of ticket sales the school sold 5 adult tickets and 2 child tickets for a total of \$22.40. The school took in \$13.40 on the second day by selling 2 adult tickets and 2 child tickets. Find the price of an adult ticket and the price of a child ticket.

16. The school that Madison goes to is selling tickets to the annual dance competition. On the first day of ticket sales the school sold 11 senior citizen tickets and 14 student tickets for a total of \$194.20. The school took in \$86.20 on the second day by selling 6 senior citizen tickets and 2 student tickets. Find the price of a senior citizen ticket and the price of a student ticket.

17. The senior classes at High School A and High School B planned separate trips to the water park. The senior class at High School A rented and filled 8 vans and 11 buses with 507 students. High School B rented and filled 2 vans and 2 buses with 96 students. Each van and each bus carried the same number of students. Find the number of students in each van and in each bus.

18. The indoor climbing gym is a popular field trip destination. This year the senior class at High School A and the senior class at High School B both planned trips there. The senior class at High School A rented and filled 10 vans and 12 buses with 736 students. High School B rented and filled 4 vans and 8 buses with 464 students. Every van had the same number of students in it as did the buses. How many students can a van carry? How many students can a bus carry?