

## Applications of Systems ws

- 1) Trevon and Abhasra are selling fruit for a school fundraiser. Customers can buy small boxes of grapefruit and large boxes of grapefruit. Trevon sold 1 small box of grapefruit and 3 large boxes of grapefruit for a total of \$60. Abhasra sold 8 small boxes of grapefruit and 6 large boxes of grapefruit for a total of \$174. Find the cost each of one small box of grapefruit and one large box of grapefruit.
  
- 2) The senior classes at High School A and High School B planned separate trips to the county fair. The senior class at High School A rented and filled 6 vans and 12 buses with 696 students. High School B rented and filled 12 vans and 1 bus with 242 students. Each van and each bus carried the same number of students. How many students can a van carry? How many students can a bus carry?
  
- 3) The school that Kristin goes to is selling tickets to a play. On the first day of ticket sales the school sold 11 senior citizen tickets and 14 child tickets for a total of \$217. The school took in \$105 on the second day by selling 5 senior citizen tickets and 7 child tickets. Find the price of a senior citizen ticket and the price of a child ticket.
  
- 4) Mark and Huong each improved their yards by planting hostas and ornamental grass. They bought their supplies from the same store. Mark spent \$72 on 3 hostas and 6 bunches of ornamental grass. Huong spent \$136 on 12 hostas and 5 bunches of ornamental grass. What is the cost of one hosta and the cost of one bunch of ornamental grass?
  
- 5) Jasmine and Mike are selling wrapping paper for a school fundraiser. Customers can buy rolls of plain wrapping paper and rolls of holiday wrapping paper. Jasmine sold 14 rolls of plain wrapping paper and 12 rolls of holiday wrapping paper for a total of \$246. Mike sold 7 rolls of plain wrapping paper and 9 rolls of holiday wrapping paper for a total of \$153. Find the cost each of one roll of plain wrapping paper and one roll of holiday wrapping paper.

- 6) Ndiba and Shreya each improved their yards by planting grass sod and geraniums. They bought their supplies from the same store. Ndiba spent \$107 on 7 ft<sup>2</sup> of grass sod and 6 geraniums. Shreya spent \$204 on 12 ft<sup>2</sup> of grass sod and 12 geraniums. Find the cost of one ft<sup>2</sup> of grass sod and the cost of one geranium.
- 7) A boat traveled 120 miles downstream and back. The trip downstream took 3 hours. The trip back took 6 hours. Find the speed of the boat in still water and the speed of the current.
- 8) The school that Jacob goes to is selling tickets to a fall musical. On the first day of ticket sales the school sold 8 adult tickets and 11 student tickets for a total of \$135. The school took in \$35 on the second day by selling 2 adult tickets and 3 student tickets. What is the price each of one adult ticket and one student ticket?
- 9) A plane traveled 432 miles to Tokyo and back. The trip there was with the wind. It took 4 hours. The trip back was into the wind. The trip back took 8 hours. Find the speed of the plane in still air and the speed of the wind.
- 10) The state fair 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 3 vans and 9 buses with 297 students. High School B rented and filled 12 vans and 5 buses with 258 students. Each van and each bus carried the same number of students. Find the number of students in each van and in each bus.

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- 1) Trevon and Abhasra are selling fruit for a school fundraiser. Customers can buy small boxes of grapefruit and large boxes of grapefruit. Trevon sold 1 small box of grapefruit and 3 large boxes of grapefruit for a total of \$60. Abhasra sold 8 small boxes of grapefruit and 6 large boxes of grapefruit for a total of \$174. Find the cost each of one small box of grapefruit and one large box of grapefruit.

small box of grapefruit: \$9, large box of grapefruit: \$17

- 2) The senior classes at High School A and High School B planned separate trips to the county fair. The senior class at High School A rented and filled 6 vans and 12 buses with 696 students. High School B rented and filled 12 vans and 1 bus with 242 students. Each van and each bus carried the same number of students. How many students can a van carry? How many students can a bus carry?

Van: 16, Bus: 50

- 3) The school that Kristin goes to is selling tickets to a play. On the first day of ticket sales the school sold 11 senior citizen tickets and 14 child tickets for a total of \$217. The school took in \$105 on the second day by selling 5 senior citizen tickets and 7 child tickets. Find the price of a senior citizen ticket and the price of a child ticket.

senior citizen ticket: \$7, child ticket: \$10

- 4) Mark and Huong each improved their yards by planting hostas and ornamental grass. They bought their supplies from the same store. Mark spent \$72 on 3 hostas and 6 bunches of ornamental grass. Huong spent \$136 on 12 hostas and 5 bunches of ornamental grass. What is the cost of one hosta and the cost of one bunch of ornamental grass?

hosta: \$8, bunch of ornamental grass: \$8

- 5) Jasmine and Mike are selling wrapping paper for a school fundraiser. Customers can buy rolls of plain wrapping paper and rolls of holiday wrapping paper. Jasmine sold 14 rolls of plain wrapping paper and 12 rolls of holiday wrapping paper for a total of \$246. Mike sold 7 rolls of plain wrapping paper and 9 rolls of holiday wrapping paper for a total of \$153. Find the cost each of one roll of plain wrapping paper and one roll of holiday wrapping paper.

roll of plain wrapping paper: \$9, roll of holiday wrapping paper: \$10

- 6) Ndiba and Shreya each improved their yards by planting grass sod and geraniums. They bought their supplies from the same store. Ndiba spent \$107 on 7 ft<sup>2</sup> of grass sod and 6 geraniums. Shreya spent \$204 on 12 ft<sup>2</sup> of grass sod and 12 geraniums. Find the cost of one ft<sup>2</sup> of grass sod and the cost of one geranium.

ft<sup>2</sup> of grass sod: \$5, geranium: \$12

- 7) A boat traveled 120 miles downstream and back. The trip downstream took 3 hours. The trip back took 6 hours. Find the speed of the boat in still water and the speed of the current.

boat: 30 mph, current: 10 mph

- 8) The school that Jacob goes to is selling tickets to a fall musical. On the first day of ticket sales the school sold 8 adult tickets and 11 student tickets for a total of \$135. The school took in \$35 on the second day by selling 2 adult tickets and 3 student tickets. What is the price each of one adult ticket and one student ticket?

adult ticket: \$10, student ticket: \$5

- 9) A plane traveled 432 miles to Tokyo and back. The trip there was with the wind. It took 4 hours. The trip back was into the wind. The trip back took 8 hours. Find the speed of the plane in still air and the speed of the wind.

plane: 81 mph, wind: 27 mph

- 10) The state fair 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 3 vans and 9 buses with 297 students. High School B rented and filled 12 vans and 5 buses with 258 students. Each van and each bus carried the same number of students. Find the number of students in each van and in each bus.

Van: 9, Bus: 30