

System Wordy Problems #1 (buying, weighing and paying for stuff 😊)

These word problems will likely be easier to solve by **ELIMINATION**

1) At Billy-Bobs Beef Eatin' BBQ Beef Bonanza, 12 hamburgers and 5 steaks cost \$131.14. But, 15 hamburgers and 2 steaks would cost you \$122.53. What is the cost for a single steak and a single burger?

Make equations

12 hamburgers and 5 steaks cost \$131.14. $12H + 5C = 131.14 \quad \times 2$

15 hamburgers and 2 steaks would cost you \$122.53. $15H + 2C = 122.53 \quad \times 5$

H = hamburger C = steak(Cow)

$$24H + 10C = 262.28$$

$$- \quad \underline{75H + 10C = 612.65}$$

$$-51H = -305.37$$

$$H = \$6.87 \quad 5C = 131.14 - 12(6.87) \quad C = \$9.74$$

So, a single steak and burger costs \$16.61 in total

2) To make money for an upcoming tournament, a team sold tickets for a draw for a Justin Bieber Dart Board and tickets for a new calculator. Albert sold 9600 dart board tickets and 1200 tickets for the calculator draw and collected \$10020. Maria sold 1600 dart board tickets and 500 calculator tickets and collected \$2135. How much was each type of ticket?

Albert $9600D + 1200C = 10020$

Maria $1600D + 500C = 2135 \quad \times 6$

D = dart board C = calculator

$$9600D + 1200C = 10020$$

$$- \quad \underline{9600D + 3000C = 12810}$$

$$-1800C = -2790$$

$$C = \$1.55 \quad 9600D = 10020 - 1200(1.55) \quad D = \$0.85$$

3) A music club charges an initial sign-up fee and then fee for every song purchased. Emily became a member and bought 36 songs paying \$67. Claire also become a member and bought 17 songs paying \$43.44. How much would it cost Hannah to join and buy 82 songs?

Emily $F + 36T = 67$

Claire $F + 17T = 43.44$

$$19T = 23.56$$

can just subtract here to eliminate F (initial fee)

$$T = \$1.24 \text{ per tune} \quad F = 67 - 36(1.24) \quad F = \$22.36$$

So Hannah will pay $22.36 + 82(1.24)$ or \$124.04

4) A box filled with 90 oranges has a weight of 15kg. When 14 oranges are removed, the weight becomes 13.08 kg. How much does the box weigh?

$$90N + B = 15$$

$76N + B = 13.08$ can just subtract here to eliminate B (box) and solve for N (navel orange weight)

$$14N = 1.92$$

$$N = 0.137 \text{ kg}$$

$$\text{so } B = 15 - 90(.137)$$

$$B = 2.67 \text{ kg}$$

Assignment = worksheet

6) **3 footballs and 1 soccer ball cost \$155. 2 footballs and 3 soccer balls cost \$220. Find the cost of each type of ball.**

7) **The cost of renting a car depends on the number of days it is rented for and the kms driven. Ken paid \$511.60 for 2 days and 860km. Lou paid \$648.8 for 5 days and 780 km. Find the cost per day and the km fee.**

8) **While at the zoo, Spencer said "There are 45 types of animals and some have 2 feet and some have 4" Kelsey responded with "I counted 142 feet in total" How many of 4 foot and 2 foot animals are at this zoo?**

9) **A tennis club charges an annual fee and an hourly rate. One year, Toni played 39 hours and paid \$384. Sandra played 51 hours and paid \$456. Find the annual rate and hourly fee.**

Now solve the systems on **page 410 #12** and **Page 437 #10**