# 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.
15 hamburgers and 2 steaks would cost you \$122.53.
$12 \mathrm{H}+5 \mathrm{C}=131.14$ x2

H = hamburger C = steak(Cow)
$24 \mathrm{H}+10 \mathrm{C}=262.28$
$75 H+10 C=612.65$

$$
-51 H=-305.37 \quad H=\$ 6.87 \quad 5 C=131.14-12(6.87) \quad C=\$ 9.74
$$

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?

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Albert 9600D + 1200C = 10020
Maria 1600D + 500C = 2135 x6
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D= dart board C = calculator
9600D + 1200C = 10020

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

$$
-1800 C=-2790 \quad C=\$ 1.55 \quad 9600 D=10020-1200(1.55) \quad D=\$ 0.85
$$

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

$$
F+36 T=67
$$

Claire $\quad \underline{F+17 T}=43.44$
$19 T=23.56$
can just subtract here to eliminate $F$ (initial fee)
T = \$1.24 per tune
$F=67-36(1.24) \quad F=\$ 22.36$
So Hannah will pay 22.36 + 82(1.24) or $\$ 124.04$
4) A box filled with 90 oranges has a weight of 15 kg . When 14 oranges are removed, the weight becomes 13.08 kg . How much does the box weigh?
$90 N+B=15$
$76 N+B=13.08 \quad$ can just subtract here to eliminate $B$ (box) and solve for $N$ (navel orange weight)
$14 N=1.92$ $N=0.137 \mathrm{~kg}$
so $B=15-90(.137)$
$B=2.67 \mathrm{~kg}$

## Systems (wordy probs \#1)

1) At Lisa's sandwich shoppe, two chicken sandwiches and four cheese sandwiches cost \$18. Five chicken sandwiches and six cheese sandwiches cost $\$ 34$. How much is each type of sandwich?
2) Ed bought 6 cheap golf balls and 4 expensive balls for $\$ 12.50$. Bob buys 4 cheap and 3 expensive for $\mathbf{\$ 9}$. How much would it cost if I bought one of each?
3) A school was selling tickets for a play. Mallory sold 6 adult tickets and 15 student tickets and collected $\$ 48$. Emily sold 8 adult and 7 student tickets and collected $\$ 38$.
What are the prices of the tickets?
4) 4 chocolate bars and 3 ice-cream cones cost $\$ 5.30$. 2 bars and 1 cone cost $\$ 2.20$. How much would I pay for 9 bars and 24 ice cream cones?
5) 20 weights are placed in a box and the total mass is 340 kg . When 48 more weights are added to the box the mass becomes 760 kg . Find the mass of the box and weights.
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 860 km . 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 and 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.
