5.) $x-2y+3z=7$
$2x+y+z=4$
$-3x+2y-2z=-10$

(1+3)
$x-2y+3z=7$
$-3x+2y-2z=-10$
$-2x+z=-3$ $\cdot(-5)$

(1+2)
$x-2y+3z=7$
$4x+2y+2z=8$
$5x+5z=15$

$5x+5z=15$
$10x-5z=15$
$15x=30$
$\boxed{x=2}$

$5(2)+5z=15$
$10+5z=15$
$5z=5$
$\boxed{z=1}$

$2(2)+y+1=4$
$4+y+1=4$
$y+5=4$
$\boxed{y=-1}$

8.) $2x-3y-z=0$
$-x+2y+z=5$
$3x-4y-z=1$

(1+2)
$2x-3y-z=0$
$-x+2y+z=5$
$(x-y=5)\cdot(-2)$

$-2x+2y=-10$

(2+3)
$-x+2y+z=5$
$3x-4y-z=1$
$2x-2y=6$

$2x-2y=6$
$0=-4$
NO SOLUTION – INCONSISTENT

13.) $x+y-z=6$
$3x-2y+z=-5$
$x+3y-2z=14$

(2+3)
$6x-4y+2z=-10$
$x+3y-2z=14$
$(7x-y=4)\cdot(-1)$

(1+2)
$x+y-z=6$
$3x-2y+z=-5$
$4x-y=1$

$-7x+y=-4$
$4x-y=1$
$-3x=-3$
$\boxed{x=1}$

$7(1)-y=4$
$7-y=4$
$-y=-3$
$\boxed{y=3}$

$x+y-z=6$
$1+3-z=6$
$4-z=6$
$-z=2$
$\boxed{z=-2}$

18.) CONTAINS: $(-1,-2)$ $(1,-4)$ $(2,4)$

$y=ax^2+bx+c$
$-2=a(-1)^2+b(-1)+c$
$-4=a(1)^2+b(1)+c$
$4=a(2)^2+b(2)+c$

$-2=a-b+c$
$-4=a+b+c$
$4=4a+2b+c$

(1+2): $-2=a-b+c$
$-4=a+b+c$
$-6=2a+2c$

(2+3): $8=-2a-2b-2c$
$4=4a+2b+c$
$(12=2a-c)\cdot(-1)$

$-6=2a+2c$
$-12=-2a+c$
$-18=3c$
$\boxed{-6=c}$

$12=2a--6$
$12=2a+6$
$6=2a$
$\boxed{3=a}$

$-4=a+b+c$
$-4=3+b-6$
$-4=b-3$
$\boxed{-1=b}$

$\boxed{y=3x^2-x-6}$

21) $O + M + B = 500$

$50O + 35M + 25B = 17{,}100$

$\left(50\left(\frac{1}{2}O\right) + 35M + 25B = 14{,}600\right) \cdot -1$

(2+2) $50O + 35M + 25B = 17{,}100$

$-25O - 35M - 25B = -14{,}600$

$25O = 2500$

$\boxed{O = 100}$

(1+2): $100 + M + B = 500$

$50(100) + 35M + 25B = 17{,}100$

$B = 400 - M$

$5000 + 35M + 25B = 17{,}100$

$5000 + 35M + 25(400 - M) = 17{,}100$

$5000 + 35M + 10{,}000 - 25M = 17{,}100$

$10M + 15{,}000 = 17{,}100$

$10M = 2{,}100$

$\boxed{M = 210}$

$O + M + B = 500$

$100 + 210 + B = 500$

$310 + B = 500$

$\boxed{B = 190}$

22) $a + C + S = 405$

$8a + 4.5C + 6S = 2320$

$C = 2a$

$a + 2a + S = 405$

$8a + 4.5(2a) + 6S = 2320$

$3a + S = 405$

$17a + 6S = 2320$

$S = 405 - 3a$

$17a + 6(405 - 3a) = 2320$

$17a + 2430 - 18a = 2320$

$-a + 2430 = 2320$

$-a = -110$

$\boxed{a = 110}$

$S = 405 - 3(110)$

$S = 405 - 330$

$\boxed{S = 75}$

$C = 2a$

$= 2(110)$

$\boxed{C = 220}$

23) x = # of servings of chicken

y = # of servings of corn

z = # of servings of milk

protein → $30x + 3y + 9z = 66$

carbs → $35x + 16y + 13z = 94.5$

calcium → $200x + 10y + 300z = 910$

SET UP ONLY!

25) $8H + 6F + 6C = 26.10$

$10H + 6F + 8C = 31.60$

NOT ENOUGH INFORMATION - A SYSTEM WITH 3 VARIABLES NEEDS 3 EQUATIONS IN ORDER TO BE ABLE TO SOLVE IT.