3.2 Solving systems by Substitution

$y = 300 + 0.01x$

$y = 150 + 0.04x$

Replace a value that is in the other equation

$300 + 0.01x = 150 + 0.04x$

$-150 \quad -150$

$150 + 0.01x = 0.04x$

$-0.01x \quad -0.01x$

$\frac{150}{0.03} = \frac{0.03x}{0.03}$

$5000 = x$ (5000, 350)

$y = 300 + 0.01x$

$y = 300 + 0.01(5000)$

$y = 300 + 50$

$y = 350$

$x + y = 5$ ← Solve for x, y

$2x + 3y = 30$

$x + y = 5$

$-x \quad -x$

$y = (5 - x)$

$2x + 3(5 - x) = 30$

$2x + 15 - 3x = 30$

$15 - x = 30$

$-15 \quad -15$

$-x = 15$

$x = -15$

$y = 5 - x$

$y = 5 - (-15)$

$y = 20$

$(-15, 20)$

John makes two types of Pizza. Pizza A costs $7 and Pizza B cost $10

$A + B = 3$ $B = 3 - A$

$7A + 10B = 257$ $B = 3 - (-75.67)$

$7A + 10(3 - A) = 257$ $B = 78.67$

$7A + 30 - 10A = 257$

$-30 \quad -30$

$\frac{-3A}{-3} = \frac{227}{-3}$

$A = -75.67$

(-75.67, 78.67)