

Sec 5.2

Solving By Substitution

$$\begin{cases} y = -x + 5 \\ y = 2x - 1 \end{cases}$$

$2x - 1 = -x + 5$

$3x - 1 = 5$

$3x = 6$

$x = 2$

$$y = 2(2) - 1$$

$$y = 3$$

$(2, 3)$

$3 = -2 + 5 \checkmark$

$3 = 4 - 1 \checkmark$

$$\begin{cases} x - y = -4 \\ 2x + y = 4 \end{cases} \rightarrow y = -2x + 4$$

$x - (-2x + 4) = -4$

$x + 2x - 4 = -4$

$3x - 4 = -4$

$3x = 0$

$x = 0$

$y = 0 + 4 = 4$

$(0, 4)$

$$(0, 4)$$

$$\begin{cases} 5x + 2y = 9 \\ x + y = -3 \end{cases} \rightarrow x = -y - 3$$

$$\begin{aligned} 5(-y - 3) + 2y &= 9 \\ -5y - 15 + 2y &= 9 \\ -3y - 15 &= 9 \\ -3y &= 24 \end{aligned}$$

$$y = -8$$

$$x = 8 - 3 = 5$$

$$(5, -8)$$

A THEATER EARNED \$3640 FROM A CONCERT. AN ORCHESTRA TICKET COST THREE TIMES AS MUCH AS A BALCONY TICKET. THEY SOLD 148 ORCHESTRA AND 76 BALCONY TICKETS. HOW MUCH DID THEY CHARGE FOR TWO TYPES OF TICKETS.

x - ORCHESTRA \$

y - BALCONY \$

Q14 Ruru

A

$$148x + 76y = 3640$$

$x = 3y$

$$148(3y) + 76y = 3640$$

$$444y + 76y = 3640$$

$$520y = 3640$$

$$y = 7$$

$$x = 3y$$

$$x = 21$$

Саша's rate \$ 21

Васильев \$ 7