

Name: _____

Date: _____

Learning Goal 7.2

Solve systems of linear equations by substitution.

Example Solve by substitution. Verify your solutions.

a.
$$\begin{aligned} 4x + y &= -5 \\ 2x + 3y &= 5 \end{aligned}$$

b.
$$\begin{aligned} \frac{1}{2}x + \frac{2}{3}y &= -1 \\ y &= \frac{1}{4}x - \frac{5}{3} \end{aligned}$$

c.
$$\begin{aligned} 0.03x + 0.15y &= 0.027 \\ -0.1x - 0.1y &= 0.5 \end{aligned}$$

Example Juliette has \$2,500 to invest. She chooses to invest part of this money at 5% interest per annum and the balance at 4.2% interest per annum. In one year, she earned \$113.00 in interest. How much did she invest at each interest rate?

Simple interest formula: $I = P \times r \times t$

I interest earned

P amount invested (principal)

r interest rate expressed as a decimal

t time

Example The local theater company charges \$12 for student tickets and \$17 for adult tickets. For their Saturday matinee the ticket revenue was \$8050 and 525 people attended the performance. How many student and adult tickets were sold?