

Alg I 6.3 notes.notebook

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Solving Systems Using Elimination

The addition property of equality tells us that if $a = b$ and $c = d$, then $a + c = b + d$. Extending that logic allows us to add equations together. By doing this strategically we can eliminate a variable and solve for the other. We call this process *elimination*.

Solve each system by using elimination.

$$1) \begin{cases} 3x - y = 11 \\ 5x + y = 5 \end{cases}$$

$$4) \begin{cases} 5x - 2y = 17 \\ -10x + 4y = 26 \end{cases}$$

$$5) \begin{cases} 2x - 4y = -8 \\ 3x - 6y = -12 \end{cases}$$

$$2) \begin{cases} x - 2y = 8 \\ 2x + 4y = 4 \end{cases}$$

$$3) \begin{cases} 3x + 2y = 17 \\ 2x + 5y = 26 \end{cases}$$

6) Two families decide to attend the Olathe North musical. One family has 4 adults and 3 children and it costs them \$47 for their tickets. Another family has 2 adults and 4 children and it costs them \$36 for their tickets. Find the cost for an adult ticket and the cost for a child ticket.