Solving Systems of Equations with ELIMINATION (equal constant)

Big Ideas

*Linear equations without a dependent variable are most readily expressed in standard form: ax + by = c

*Elimination is the most direct way to solve a system of equations in standard form.

Example:

A tour company offers two packages shown in the chart below.

k = cost per kid for tour

a = cost per adult for tour

Tour	#of kids	#of adults	Total Cost
A	4	2	$96
B	4	4	$132

What is the price per Kid? $15

What is the price per Adult? $18

Write a system of equations to represent this situation.

$$4k + 4a = 132$$
$$-(4k + 2a = 96)$$

$$\frac{2a}{2} = \frac{36}{2}$$

$$a = 18$$

$$4k + 2(18) = 96$$
$$4k + 36 = 96$$
$$-36 \quad -36$$

$$\frac{4k}{4} = \frac{60}{4}$$

$$k = 15$$