Day 4 Elimination Using Multiplication (# in Front of Variable) Sometimes our Coeffient Sare not the Summand we have to Multiplyto create opposites before we can use elimination
Step 1: White the equations so Vanades are lined up. Step 2: Multiply both of the equations by a number to obtain coefficients that are opposites for one of the Vanables Step 3: Add the equations to summer one of the Vanables Step 4: Solve the equation for the remaining variable. Step 5: Substitute Step 6: White value obtained in Step 4 into either one of the original equations and solve for the other Vanable Step 6: White solution as an Ordered pair. (X1Y)

Example 1

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$$5x + 6y = -8$$

• $2x^{2} + 3y^{2} = 5 \cdot 2$

• $4x + 6y = -10$

• $4x + 6y$

Example 2
$$6x-2y=10 \\ 3x^{2}-7y=-19^{2} - 6\chi-2y=10$$

$$-6\chi+14y=+38$$

$$6\chi-2(4)=10 - 12y=48$$

$$6\chi-2(4)=10 + 2y=48$$

$$6\chi-2(4)=10 - 12y=48$$

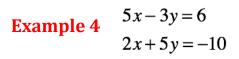
$$12\chi=4$$

$$1$$

Solve the system

$$2x + 7y = 1$$
$$x + 5y = 2$$

Sometimes we will have to Multiply both equations by a different number in order to have
$$\frac{11\sqrt{2}}{12\sqrt{2}} = 8$$
 $\frac{4x+2y-8}{3x+3y-9} = \frac{12x+6y-12y}{6x+6y-16}$ $\frac{6x+6y-16}{6x} = \frac{12}{12} = \frac{6}{12}$



Example 5 A buffet has one price for adults and another price for children. The Taylor family has 2 adults and 3 children and their bill was \$40.50. The Wong family has 3 adults and 1 child and their bill was \$38. What is the price for adults and children at the buffet?

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