

Solving Systems of Equations – Elimination (Multiplication)

A.REI.6 – Solving systems exactly and
approximately

Agenda

Homework:

- Elimination
(Multiplication)
Worksheet
- Summary for notes
- AM

Materials:

- Notebook
- Calculator (if needed)

DO NOW:

1. Take out homework
2. On your desk

Solve the system using
elimination:

$$2x - y = 14$$

$$3x + y = 6$$

Do Now

Solve the following system using Elimination
(Add/Subtract) Method

$$2x - y = 14$$

$$3x + y = 6$$

Homework Help

Exercises

Use elimination to solve each system of equations.

1. $x + y = -4$

$$x - y = 2$$

2. $2x - 3y = 14$

$$x + 3y = -11$$

3. $3x - y = -9$

$$-3x - 2y = 0$$

4. $-3x - 4y = -1$

$$3x - y = -4$$

5. $3x + y = 4$

$$2x - y = 6$$

6. $-2x + 2y = 9$

$$2x - y = -6$$

7. $2x + 2y = -2$

$$3x - 2y = 12$$

8. $4x - 2y = -1$

$$-4x + 4y = -2$$

9. $x - y = 2$

$$x + y = -3$$

10. $2x - 3y = 12$

$$4x + 3y = 24$$

11. $-0.2x + y = 0.5$

$$0.2x + 2y = 1.6$$

12. $0.1x + 0.3y = 0.9$

$$0.1x - 0.3y = 0.2$$

13. Rema is older than Ken. The difference of their ages is 12 and the sum of their ages is 50. Find the age of each.

14. The sum of the digits of a two-digit number is 12. The difference of the digits is 2. Find the number if the units digit is larger than the tens digit.



Set up Power Math Notes (see example below)

Name: Date: Period: Topic: Solving System of Equations Algebraically – Elimination (Multiplication) Method	
Toolbox: <i>(leave about 8 lines)</i>	Summary/Reflection:
Study Questions:	Workspace:



How do you solve a system of equations using the elimination method?

Step 1

- Find the LEAST COMMON MULTIPLE between the two coefficients of ONE of your variables

Step 2

- Multiply one or both equations so that the coefficients for the chosen variable are now that LCM

Step 3

- Use Elimination Add/Subtract Method

Step 3

- CHECK your solution



Example– Neither variable has matching coefficients in each equation

LCM of 5 & 2:

10

$$-5x - 8y = 17$$

$$2x - 7y = -17$$

Answer: (-5, 1)

$$\cancel{-10x} - 16y = 34$$

$$2x - 7(1) = -17$$

$$+ 10x + -35y = + -85$$

$$2x - 7 = -17$$

$$+7 \qquad +7$$

$$\underline{-51y} = \underline{-51}$$

$$\underline{2x} = \underline{-10}$$

$$\underline{-51} \qquad \underline{-51}$$

$$\underline{2} \qquad \underline{2}$$

$$y = 1$$

$$\underline{x} = \underline{-5}$$

Practice 😊

Solve the linear system using elimination.

1. $3x + 2y = 4$
 $5x + 2y = 8$

2. $4x + 3y = 8$
 $x - 2y = 13$

3. $10x - 9y = 46$
 $-2x + 3y = 10$

4. $2x + 5y = 3$
 $3x + 10y = -3$

5. $6x + 5y = 19$
 $2x + 3y = 5$

6. $4x - 3y = 8$
 $5x - 2y = -11$

Mini Quiz

$$3x + 2y = 7$$

$$2x - 4y = 2$$