

Honors Algebra II
Test 3
Chapter 4

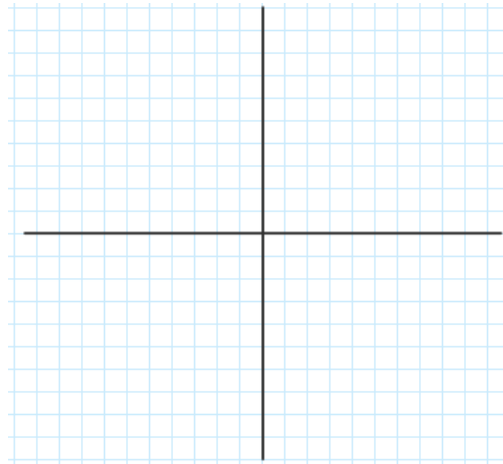
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Student _____

Parent _____

No Calculators Allowed

1. $x + 3y = 3$
 $y = -2x - 4$



a) Graph each equation

b) List three points on each line
(not including intersection)

$x + 3y = 3$

$y = -2x - 4$

c) List the intersection.

Solve the systems of equations using substitution or elimination, show all work:

2. $x + y - z = 6$
 $2x - y + z = -9$
 $x - 2y + 3z = 1$

3. $x + z = -3$
 $y + z = 3$
 $x + y = 8$

Use row operations to rewrite as an identity matrix. State your solution.

4. $3x + 4y = -7$
 $x - 3y = -11$

Use row operations to rewrite as an identity matrix. State your solution.

5. $4x - 3y = -19$
 $2x + 5y = 36$

Solve using Cramer's Rule:

6. $10x - 3y = 5$
 $8x - 6y = 7$

For each of the following word problems,

- a) Write a system of equations that represents the information
- b) Solve the equations using any methods we have used in class.
- c) State your answers

7. Brock and Heston are traveling to a business conference. The trip takes 2 hours for Brock and 2.5 hours for Heston, since Heston lives 40 miles farther away. Heston travels 5 mph faster than Brock. Find their average rates.

a) _____

c) _____

8. A cup of uncooked rice contains 15 g of protein and 810 calories. A cup of uncooked soybeans contains 22.5 g protein and 270 calories. How many cups of each should be used for a meal containing 9.5 g of protein and 324 calories?

a) _____

c) _____

9. The perimeter of a triangle is 59 in. The longest side is 11 in. longer than the medium side, and the medium side is 3 in. more than the shortest side. Find the length of each side of the triangle.

10. A jar contains only pennies, nickels, and dimes. The number of dimes is one more than the number of nickels, and the number of pennies is six more than the number of nickels. How many of each denomination can be found in the jar if the total value is \$4.80?

BONUS (5 points possible):

The Waputi Indians make woven blankets and rugs. Each blanket requires 24 hours for spinning the yarn and 15 hours for weaving. Rugs require 30 hours for spinning and 18 hours for weaving. If there is time for 480 hours of spinning and 294 hours of weaving, what is the maximum number of items that can be made?