Unit Review

Objectives:

* When given an expression with either one or two unknown variables, I can rewrite the expression as an equation or an inequality and when given an equation or an inequality, I can rewrite as an expression.
* When given an equation or inequality with one unknown variable, I can solve for the unknown term.
* When given an equation or inequality with two unknown variables, I can combine like terms and put them into slope-intercept form.
* I can graph equations and inequalities with one or two unknown variables, choose the appropriate type of line (dotted or solid) for inequalities involving two unknown variables and the appropriate dot (closed or open) for single variable inequalities, and shade in the appropriate set of solutions.

Key Terms:

* Equation vs. Inequality
* Variable
* ‘like terms’
* Mathematical expression
* Slope-intercept form

Review questions from activity:

1. Three multiplied by a number is more than four added to twelve more than a different number.

Answer:

1. Three of Anne’s friends helped her move into her new apartment. To show her appreciation, she wanted to take them out to the movies and pay for their tickets (and one for herself). She also needs to put in $8.00 of gas in her car to drive to the movies. If the total cost of the evening was $43.00, write an equation that would help determine the price of one movie ticket.

Answer:

1. The sum of a number x and seven is at least 42 AND less than 143.

Answer:

1. A number y doubled and subtracted from 548 is the same as 42 divided by a number c.

Answer:

1. When the number x is multiplied by four, the result is 9 added to x. What is the value of 7x-3?

Answer:

Solve for x: subtract x from both sides

Divide by 3 on each side.

Now substitute this answer in for x in the new equation

Solve:

1. All five players on the basketball team scored the same number of points in the last home game, totaling 60 points. If there were only three members on the team, how many total points would the team score? (Assume the three players scored the same amount of points as they did in the first game.)

Answer:

Cross-multiply and solve for x:

1. Combine like terms and set one side equal to zero:

Answer:

1. Solve for x:

Answer: subtract 3 from both sides

Divide both sides by -2 and CHANGE the sign

1. The sum of two numbers, m and p, is equal to 72. If m is the same as 8 + p, then what is the value of p?

Answer:

Substitute 🡪

Combine terms:

Solve: p=32

1. Kim’s garden has a length of 8 ft. and its total area is equal to 64 sq. feet. If Kim wants to extend the WIDTH of the garden by 3 feet, what will the new area be?

Hint: Area = length × width

Answer:

Solve for w:

Add 3 to the original width. (8 + 3 = 11) then solve for new area.

1. Combine like terms and set equal to zero:

Answer:

1. Ms. Hubert’s math class won a free pizza party. If there are 33 students in the class and each student is guaranteed 2 slices of pizza, how many pizzas are needed to feed the students assuming that each pizza comes with 8 slices?

Answer: 9 pizzas are needed

1. Graph the equation

Answer: y int. = 3, slope = 2 (up 2, right 1 or down 2, left 1)

1. Graph the inequality

Answer: y int. = 5, slope = -3 (up three, left 2 or down 3, right 2), solid line, shaded to the left of the line (shading does not include the point (0,0))

1. Graph the inequality or

Answer: closed dot on 12 and open dot on 18 with a line extended to the left of 12

and to the right of 18

1. Put into slope-intercept form and graph:

Answer: slope int. form 🡪

Y int. = 3, slope = -2 (up two, left one or down two, right one), dotted line,

Shading to the left of the line (including the point (0,0))

1. Put into slope intercept form and graph:

Answer: slope int. form 🡪

Y int. = , slope = 1 (up 1, right 1 or down 1, left 1), dotted line, shading to the right

of the line (not including the point (0,0)).

1. Graph:

Answer: open dot on 8 and -3, shading in between the two points

1. Graph:

Answer: horizontal line at -1 on the y-axis

1. Graph

Answer: y int. = -1, slope = -1 (up one, left one or down one, right one)

Critical thinking question: How do you think you would graph the solution to

?

Answer: similar to the graphs of single variable inequalities held together by ‘and’. Graph both lines and shade in the common answer between each solution set.