Learning Target: I can solve systems of equations and interpret viable solutions.

Bell Work:

If (x, y) is the solution to the system of equations above, what is the value of x?

$$-3x + 4y = 20$$
$$6x + 3y = 15$$

(handwritten work)
Elimination
$2(-3x + 4y = 20)$
$-6x + 8y = 40$
$6x + 3y = 15$
$11y = 55$
$\frac{11y}{11} = \frac{55}{11}$
$y = 5$

$6x + 3(5) = 15$
$6x + 15 = 15$
$-15 \quad -15$
$\frac{6x}{6} = \frac{0}{6}$
$x = 0$

What is the solution (x, y) to the system of equations above?

$$3x + 4y = -23$$
$$2y - x = -19$$

A) $(-5, -2)$
B) $(3, -8)$ *(circled)*
C) $(4, -6)$
D) $(9, -6)$

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Bell Work:

$$kx - 3y = 4$$
$$4x - 5y = 7$$

In the system of equations above, k is a constant and x and y are variables. For what value of k will the system of equations have no solution?

(handwritten work)
$y = mx + b$
$-3y = -kx + 4$
$\frac{-3y}{-3} = \frac{-kx}{-3} + \frac{4}{-3}$
$y = \frac{k}{3}x - \frac{4}{3}$
$-5y = -4x + 7$
$y = \frac{4}{5}x - \frac{7}{5}$
Same slopes (m)
$\frac{k}{3} = \frac{4}{5}$
$5k = 12$
$\frac{5k}{5} = \frac{12}{5}$
$k = 12/5$

A) $\frac{12}{5}$ *(circled)*
B) $\frac{16}{7}$
C) $-\frac{16}{7}$
D) $-\frac{12}{5}$

The sum of three numbers is 855. One of the numbers, x, is 50% more than the sum of the other two numbers. What is the value of x?

(handwritten work)
$570 \div 15 = 380$
$513 \div 15 = 342$ $342 = 855$
$= 950$

A) 570
B) 513 *(circled)*
C) 214 *(crossed out)*
D) 155 *(crossed out)*

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Bell Work:

$$3x + b = 5x - 7$$
$$3y + c = 5y - 7$$

In the equations above, b and c are constants.

If b is c minus $\frac{1}{2}$, which of the following is true?

A) x is y minus $\frac{1}{4}$.
B) x is y minus $\frac{1}{2}$.
C) x is y minus 1.
D) x is y plus $\frac{1}{2}$.

Mr. Kohl has a beaker containing n milliliters of solution to distribute to the students in his chemistry class. If he gives each student 3 milliliters of solution, he will have 5 milliliters left over. In order to give each student 4 milliliters of solution, he will need an additional 21 milliliters. How many students are in the class?

A) 16
B) 21
C) 23
D) 26