

Name:

Class:

Grade 8, Unit 4: Practice Summative Assessment

Question 1

What value of x makes the equation true? Show your work.

$$6x + 13 = 4(x + 3) + 2$$

Ⓐ -4

Ⓑ $\frac{1}{2}$

Ⓒ $3\frac{1}{2}$

Ⓓ 4

Question 2

What value of w makes the equation true? Show your work.

$$10 = \frac{5}{6}(w - 3)$$

- Ⓐ 5
- Ⓑ 13
- Ⓒ 15
- Ⓓ 63

Question 3

For each equation below, state whether there is (i) one solution, (ii) no solutions, or (iii) infinitely many solutions.

Part 1

$$7b - 2 = 7b - 5$$

Part 2

$$3b - 3 = b - 1$$

Part 3

$$4b - 1 = -1 + 4b$$

Part 4

$$4b - 1 = 1 - 4b$$

Part 5

$$4b - 1 = 1 + 4b$$

Question 4

For each system below, state whether there is (i) one solution, (ii) no solutions, or (iii) infinitely many solutions.

Part 1

$$\begin{cases} y = 5x + 3 \\ y = 5x + 2 \end{cases}$$

Part 2

$$\begin{cases} y = -5x + 4 \\ y = x + 4 \end{cases}$$

Part 3

$$\begin{cases} x + y = -10 \\ x + y = -20 \end{cases}$$

Part 4

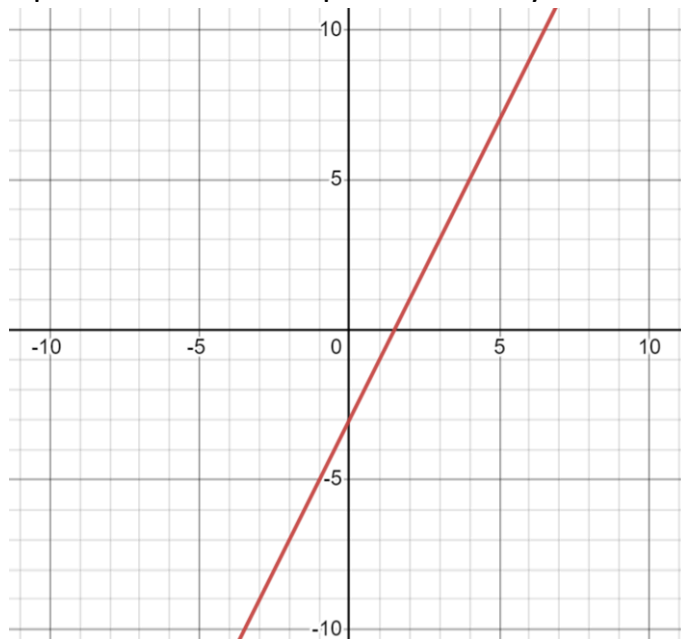
$$\begin{cases} y = 2x + 5 \\ y = -2x + 11 \end{cases}$$

Part 5

$$\begin{cases} 3x + 3y = -15 \\ x + y = -5 \end{cases}$$

Question 5

Here is the graph of one of two equations in a system of equations.



The solution to the system is $(4, 5)$.

Select the three equations that could be the other equation in the system.

Ⓐ $y = 4x + 5$

Ⓑ $y = x + 1$

Ⓒ $y = 2x - 5$

Ⓓ $y = \frac{1}{2}x + 7$

Ⓔ $y = -\frac{1}{2}x + 7$

Ⓕ $y = \frac{1}{4}x + 4$

Question 6

Solve the equation below. Show your work.

$$\frac{1}{2}x + 5 = \frac{1}{3}(4x - 5)$$

Question 7

Find the solution for the system of equations below. Show your work.

$$\begin{cases} 2x - 3y = 9 \\ y = \frac{1}{3}x + 1 \end{cases}$$

Question 8

Carlos and Derrick are each saving money. Carlos starts with \$290 in his savings account and adds \$15 per week. Derrick starts with \$200 in his savings account and adds \$25 each week.

Show your work answering the questions below!

Part 1 After 7 weeks, who has more money in their savings account?

Part 2 After how many weeks will Carlos and Derrick have the same amount saved?