Quiz 1.8: Graphing Systems of Linear Equations

Multiple Choice: *Choose the letter that corresponds to the correct answer. Write the answer in your answer sheet.*

1. Which ratio will determine that a system of linear equations is consistent-dependent?

   A. $\dfrac{a_1}{a_2} \neq \dfrac{b_1}{b_2}$

   B. $\dfrac{a_1}{a_2} = \dfrac{b_1}{b_2} \neq \dfrac{c_1}{c_2}$

   C. $\dfrac{a_1}{a_2} \neq \dfrac{b_1}{b_2} = \dfrac{c_1}{c_2}$

   D. $\dfrac{a_1}{a_2} = \dfrac{b_1}{b_2} = \dfrac{c_1}{c_2}$

2. Which kind of system has the ratios $\dfrac{a_1}{a_2}$ and $\dfrac{b_1}{b_2}$ unequal?

   A. Consistent-independent   B. Consistent-dependent   C. Inconsistent-independent   D. Inconsistent-dependent

3. What is the first step in graphing systems of linear equations using the intercepts?

   A. Connect the x-intercepts and y-intercepts.

   B. Plot the intercepts of both equations on the same Cartesian plane.

   C. Find the slope.

   D. Identify the x-intercept and y-intercept of each equation in the system.

4. If all the ratios $\dfrac{a_1}{a_2}$, $\dfrac{b_1}{b_2}$, and $\dfrac{c_1}{c_2}$ are equal, then the system of linear equations is:

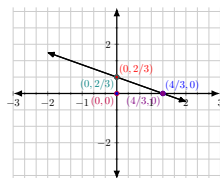   A. Consistent-independent   B. Consistent-dependent   C. Inconsistent-independent   D. Inconsistent-dependent

5. Which of the following must be true if a system of linear equations is inconsistent?

   A. $\dfrac{a_1}{a_2} \neq \dfrac{b_1}{b_2}$

   B. $\dfrac{a_1}{a_2} = \dfrac{b_1}{b_2} \neq \dfrac{c_1}{c_2}$

   C. $\dfrac{a_1}{a_2} \neq \dfrac{b_1}{b_2} = \dfrac{c_1}{c_2}$

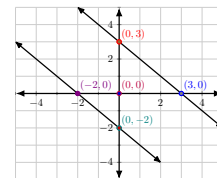   D. $\dfrac{a_1}{a_2} = \dfrac{b_1}{b_2} = \dfrac{c_1}{c_2}$

6. What is the solution to the system of linear equations $\begin{cases} y = \dfrac{2}{3}x + 6 \\ y = -\dfrac{3}{2}x + 6 \end{cases}$?

   A. $= \{(0,4)\}$

   B. $= \{(0,5)\}$

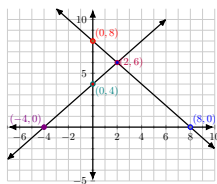   C. $= \{(0,6)\}$

   D. $= \{(0,7)\}$

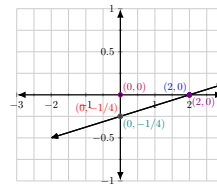7. Which of the following shows the graph of $\begin{cases} x - 8y = 2 \\ 3x - 24y = 6 \end{cases}$?
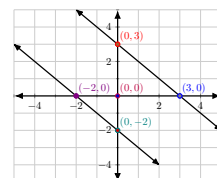
   A.

   B.

   C.

   D.

8. Which system of linear equations is represented by the graph shown at the right?

   A. $\begin{cases} x + y = 3 \\ x + y = -2 \end{cases}$

   B. $\begin{cases} 8 = x + y \\ -4 = x - y \end{cases}$

   C. $\begin{cases} 3x + 6y = 4 \\ 6x + 12y = 8 \end{cases}$

   D. $\begin{cases} x + y = 12 \\ x - y = 8 \end{cases}$

9. What kind of system of linear equations is $\begin{cases} 8x + 2y = 2 \\ y = -4x + 1 \end{cases}$?

   A. Consistent-independent   B. Consistent-dependent   C. Inconsistent-independent   D. Inconsistent-dependent

10. Which of the following systems of linear equations is inconsistent?

    A. $\begin{cases} x + 3y = 8 \\ x - 3y = 8 \end{cases}$

    B. $\begin{cases} x - 2y = 9 \\ x + 3y = 14 \end{cases}$

    C. $\begin{cases} 2y = 6x - 5 \\ 3y = 9x + 1 \end{cases}$

    D. $\begin{cases} 3x + 5y = 15 \\ 4x - 7y = 10 \end{cases}$

1. Which ratio will determine that a system of linear equations is consistent-dependent?

   Solution:

   A. $\dfrac{a_1}{a_2} \neq \dfrac{b_1}{b_2}$
   B. $\dfrac{a_1}{a_2} = \dfrac{b_1}{b_2} \neq \dfrac{c_1}{c_2}$
   C. $\dfrac{a_1}{a_2} \neq \dfrac{b_1}{b_2} = \dfrac{c_1}{c_2}$
   D. $\dfrac{a_1}{a_2} = \dfrac{b_1}{b_2} = \dfrac{c_1}{c_2}$

2. Which kind of system has the ratios $\dfrac{a_1}{a_2}$ and $\dfrac{b_1}{b_2}$ unequal?

   Solution:

   A. Consistent-independent   B. Consistent-dependent   C. Inconsistent-independent D. Inconsistent-dependent

3. What is the first step in graphing systems of linear equations using the intercepts?

   Solution:

   A. Connect the x-intercepts and y-intercepts.

   B. Plot the intercepts of both equations on the same Cartesian plane.

   C. Find the slope.

   D. Identify the x-intercept and y-intercept of each equation in the system.

4. If all the ratios $\dfrac{a_1}{a_2}$, $\dfrac{b_1}{b_2}$, and $\dfrac{c_1}{c_2}$ are equal, then the system of linear equations is:

   Solution:

   A. Consistent-independent   B. Consistent-dependent   C. Inconsistent-independent D. Inconsistent-dependent

5. Which of the following must be true if a system of linear equations is inconsistent?

   Solution:

   A. $\dfrac{a_1}{a_2} \neq \dfrac{b_1}{b_2}$
   B. $\dfrac{a_1}{a_2} = \dfrac{b_1}{b_2} \neq \dfrac{c_1}{c_2}$
   C. $\dfrac{a_1}{a_2} \neq \dfrac{b_1}{b_2} = \dfrac{c_1}{c_2}$
   D. $\dfrac{a_1}{a_2} = \dfrac{b_1}{b_2} = \dfrac{c_1}{c_2}$

6. What is the solution to the system of linear equations $\begin{cases} y &= \dfrac{2}{3}x + 6 \\ y &= -\dfrac{3}{2}x + 6 \end{cases}$?

   Solution:

   A. $= \{(0, 4)\}$
   B. $= \{(0, 5)\}$
   C. $= \{(0, 6)\}$
   D. $= \{(0, 7)\}$

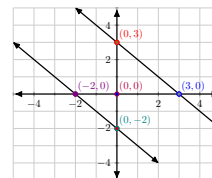7. Which of the following shows the graph of $\begin{cases} x - 8y &= 2 \\ 3x - 24y &= 6 \end{cases}$?

   Solution:

   A. Graph A
   B. Graph B
   C. Graph C
   D. Graph D

8. Which system of linear equations is represented by the graph shown at the right?

   Solution:

   A. $\begin{cases} x + y &= 3 \\ x + y &= -2 \end{cases}$
   B. $\begin{cases} 8 &= x + y \\ -4 &= x - y \end{cases}$
   C. $\begin{cases} 3x + 6y &= 4 \\ 6x + 12y &= 8 \end{cases}$
   D. $\begin{cases} x + y &= 12 \\ x - y &= 8 \end{cases}$

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    Solution:

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    B. $\begin{cases} x - 2y &= 9 \\ x + 3y &= 14 \end{cases}$
    C. $\begin{cases} 2y &= 6x - 5 \\ 3y &= 9x + 1 \end{cases}$
    D. $\begin{cases} 3x + 5y &= 15 \\ 4x - 7y &= 10 \end{cases}$