

NWEA Assessment Item Illustrating 8.EE.C.8.b

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Domain: Expressions and Equations

8.EE.C: Analyze and solve linear equations and pairs of simultaneous linear equations.

Calculator Availability: No

Use the system of equations to answer the question.

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

What is the solution to the system? Enter the answers in the boxes.

$x =$

$y =$

Alignment: 8.EE.C.8b: Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. *For example, $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6.*

This item straightforwardly measures the expectation for students to solve systems of equations algebraically in grade 8. Solving systems in high school will go beyond two linear equations to include a system of a linear equation and a quadratic equation.

Coherence: The standards in cluster 8.EE.C build on the grade 7 fluency standard for solving equations of the form $px + q = r$, where p , q , and r are specific rational numbers.^{7.EE.A.4} As students become familiar with deriving, creating, and solving systems of equations—in both mathematical and real-world contexts—they are building the foundational skills to understand and work with systems of inequalities^{HSA-CED.A.3} and to work with more complex systems in high school courses.^{HSA-REI.C}

Rigor: This item attends to procedural skill. Students use grade-level procedural skill to algebraically solve the system of equations.

Answer Key:

Use the system of equations to answer the question.

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

What is the solution to the system? Enter the answers in the boxes.

$x =$

$y =$

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