

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

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Domain: Expressions and Equations

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

Calculator Availability: Yes

Use the information to answer the question.

A school receives two shipments of desks and chairs. The shipping labels are shown below.

Shipment 1 of 2	Shipment 2 of 2
Item: Natural Wood Student Desk Quantity: 24	Item: Natural Wood Student Desk Quantity: 30
Item: Baby Blue Student Chair Quantity: 24	Item: Baby Blue Student Chair Quantity: 40
Total Shipment Weight: 744 pounds	Total Shipment Weight: 1020 pounds

A student is carrying the chairs in stacks of 3. How much does each stack weigh, in pounds? Enter the answer in the box.

pounds

Alignment: 8.EE.C.8c: Solve real-world and mathematical problems leading to two linear equations in two variables. *For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.*

This item presents a real-world scenario with numbers and a specific question intentionally chosen to make it difficult to use a guess-and-check process to solve the problem, thus encouraging students to set up a system of equations and solve the problem algebraically. By determining the correct answer, students provide substantial evidence that algebraic tools were used.

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 and application. Students use grade-level procedural skill to create and solve the system of equations. The mathematics is not immediately obvious, requiring students to recognize that creating a system of equations is necessary to answer the question. Additionally, students must attend to the specific question being asked, which is not simply the solution to the system.

Answer Key:

Use the information to answer the question.

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