

NWEA Assessment Item Illustrating 4.NBT.B.6

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Domain: Number and Operations in Base Ten

4.NBT.B: Use place value understanding and properties of operations to perform multi-digit arithmetic.

Calculator Availability: No

Use the equation to answer the question.

$$2100 \div \square = 300$$

What is the unknown number? Enter the answer in the box.

Alignment: 4.NBT.B.6: Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

In grade 4, students are still working on their conceptual understanding of multi-digit multiplication and division and are not expected to use the standard algorithm to multiply and divide. In order to find the unknown divisor, students must have strong conceptual grounding in the meaning of the operation and its relationship to multiplication.

Coherence: This standard is a continuation of work on division that students began in grade 3.^{3.OA, 3.NBT.A} In grade 5, students will continue to divide without using the standard algorithm, but they will incorporate two-digit divisors and four-digit dividends.^{5.NBT.B.6} Students will fluently divide multi-digit whole numbers using the standard algorithm in grade 6.^{6.NS.B.2}

Rigor: This item attends to conceptual understanding and procedural skill. Because the divisor is the unknown, students must use their understanding of the relationship between multiplication and division and their understanding of place value in order to solve the problem. Students use a grade-level procedural skill to calculate the unknown value. Although the standards in the Number and Operations in Base Ten domain may appear to be heavily geared toward procedural skill, it is important that assessment and instruction of these standards attend to conceptual understanding as well.

Answer Key:

Use the equation to answer the question.

$$2100 \div \square = 300$$

What is the unknown number? Enter the answer in the box.

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