

Reporting Measure: Operations and Algebraic Thinking Reporting Measure: Division

Level	Description
Above & Beyond (4.0)	The student will: • Develop strategies for dividing dividends greater than 100 by one-digit divisors (for example, when given the problem $136 \div 8$, recognize the problem as asking how many times 8 fits into 136; reason that, if the dividend were decomposed into a sum of simpler values, the total number of times the divisor fits into each of those values would be equal to the number of times it fit into the original dividend; determine that 8 fits into 80 a total of 10 times and fits into 56 a total of 7 times; and explain that $136 \div 8 = 10 + 7$ or 17).
3.5	In addition to score 3.0 performance, partial success at score 4.0 content
Proficient (3.0)	The student will: D1—Represent division problems using models or diagrams (for example, when given the problem $30 \div 5$, represent the problem as a group of 30 objects divided into 5 equal groups and determine the number of objects in each group). D2—Rewrite a multiplication or division equation relating three whole numbers as different multiplication and division equations relating the same numbers (for example, when given the equation $4 \times 5 = 20$, rewrite the equation as $5 \times 4 = 20$, $20 \div 5 = 4$, and $20 \div 4 = 5$). D3—Solve division problems represented as equations using various strategies (for example, when given the problems $28 \div 4 = 20$, $45 \div 6 = 3$, find the unknown numbers by skip counting, rewriting the equations in different forms, or reasoning about the relationship between multiplication and division).
2.5	No major errors or omissions regarding score 2.0 content, and partial success at score 3.0 content
Getting There (2.0)	D1—The student will recognize or recall specific vocabulary (for example, divide, dividend, divisor, quotient) and perform basic processes such as: • Identify the components of a division problem (dividend, divisor, division symbol, and quotient). • Describe a division problem as asking for the number of equal groups when a set of objects are divided into equal groups with a given number of objects in each group. For example, when given the division problem 16+2 = □, explain that the unknown quotient is equal to the number of equal groups when a set of 16 objects is divided into groups of 2 objects each. • Describe a division problem as asking for the number of objects in each group when a set of objects is divided into a given number of equal groups. For example, when given the division problem 16+2 = □, explain that the unknown quotient is equal to the number of objects in each group when a set of 16 objects is divided into 2 equal groups. • Describe a division problem as asking for the number of rows in an array of objects arranged in a given number of columns in an array of objects arranged in a given number of rows. For example, when given the problem 24+4 = □, explain that the unknown quotient represents the number of rows when an array of 24 objects is arranged in 4 columns, or the number of columns when an array of 24 objects is arranged in 4 rows. D2—The student will recognize or recall specific vocabulary (for example, associative property, commutative property, distributive property, factor, product) and perform basic processes such as: • Describe the properties of multiplication (commutative, associative, and distributive). • Demonstrate that dividing the product of a multiplication problem by either factor of a factor pair will result in the other factor. For example, given that 4×3 = 12, demonstrate that 12+3 = 4 and 12+4 = 3 using reasoning about the commutative property of multiplication or by drawing an array of 12 objects arranged in 4 rows and 3 columns and rotating the array 90°. •
1.5	Partial success at score 2.0 content, and major errors or omissions regarding score 3.0 content
Beginning (1.0)	With help, partial success at score 2.0 content and score 3.0 content