

Grade 7 - Unit 3 Fractions, Decimals and Percent

N02 Students will be expected to demonstrate an understanding of the addition, subtraction, multiplication, and division of decimals to solve problems (for more than one-digit divisors or more than two-digit multipliers, the use of technology is expected).

Performance Indicators

- N02.01** Use estimation to determine the appropriate place value when calculating the sum or difference.
- N02.02** Use estimation to determine the appropriate place value when calculating the product.
- N02.03** Use estimation to determine the appropriate place value when calculating the quotient.
- N02.04** Represent concretely, pictorially, and symbolically the multiplication and division of decimal numbers.
- N02.05** Create and solve a given problem involving the addition of two or more decimal numbers.
- N02.06** Create and solve a given problem involving the subtraction of decimal numbers.
- N02.07** Create and solve a given problem involving the multiplication of decimal numbers.
- N02.08** Create and solve a given problem involving the division of decimal numbers.
- N02.09** Solve a given problem involving the multiplication or division of decimal numbers with two-digit multipliers or one-digit divisors (whole numbers or decimals) without the use of technology.
- N02.10** Solve a given problem involving the multiplication or division of decimal numbers with more than two-digit multipliers or more than one-digit divisors (whole numbers or decimals) with the use of technology.
- N02.11** Check the reasonableness of solutions using estimation.
- N02.12** Solve a given problem that involves operations on decimals (limited to thousandths), taking into consideration the order of operations.

Limited	Developing	Competent	In-Depth
Student can represent multiplication of a decimal by a whole number using base-ten blocks, area models, number lines and/or arrays. Student can estimate reasonable and unreasonable solutions to a problem involving a sum, difference, product or quotient of decimal numbers. Student understands decimal place value and the role of the decimal point.	Student can represent multiplication and division of decimal numbers using base-ten blocks, area models, number lines and/or arrays. Student can use rounding or front-end estimation to help calculate a sum, difference, product or quotient of decimal numbers. Student can solve problems with two or more decimal numbers involving each of the following operations: $+$, $-$, $\times$, $\div$.	Student can represent multiplication and division of decimal numbers using base-ten blocks, area models, number lines, arrays and/or symbols. Student can use rounding and front-end estimation to help calculate a sum, difference, product or quotient of decimal numbers and check the reasonableness of my solution. Student can create and solve problems with two or more decimal numbers involving each of the following operations: $+$, $-$, $\times$, $\div$. Student can solve a problem involving the multiplication or division of decimal numbers (for more than one-digit whole number or decimal divisors and more than two-digit whole number or decimal multipliers, the use of technology is expected)	Student can use estimated solutions in practical situations where a calculated answer is not required (e.g. calculating tips). Student can create and solve problems involving the order of operations with two or more decimal numbers.