

# Mathematics: Grade 7

## Ratios and Proportional Relationships RP

- 1a** Find unit rates given a ratio. LC.7.RP.A.1A

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- 1b** Determine unit rates associated with ratios of lengths, areas, and other quantities measured in like units. LC.7.RP.A.1B

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- 1c** Solve one step problems involving unit rates associated with ratios of fractions. LC.7.RP.A.1C

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- 2a** Identify the proportional relationship between two quantities. LC.7.RP.A.2A

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- 2b** Determine if two quantities are in a proportional relationship using a table of equivalent ratios or points graphed on a coordinate plane. LC.7.RP.A.2B

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- 2c** Use a rate of change or proportional relationship to determine the points on a coordinate plane. LC.7.RP.A.2C

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- 2d** Represent proportional relationships on a line graph. LC.7.RP.A.2D

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- 3a** Find percents in real world contexts. LC.7.RP.A.3A

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- 3b** Solve one step percentage increase and decrease problems. LC.7.RP.A.3B

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- 3c** Use proportions to solve ratio problems. LC.7.RP.A.3C

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- 3d** Solve word problems involving ratios. LC.7.RP.A.3D

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- 3e** Use proportional relationships to solve multistep percent problems. LC.7.RP.A.3E

## The Number System NS

- 1a** Identify the additive inverse of a number (e.g., -3 and +3). **1b** Identify the difference between two given numbers on a number line using absolute value. LC.7.NS.A.1A

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- 1c** Identify a representation of addition on a horizontal or vertical number line. LC.7.NS.A.1C

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- 1d** Solve problems requiring addition or subtraction of positive/negative numbers. LC.7.NS.A.1D

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- 2a** Solve multiplication problems with positive/negative numbers. LC.7.NS.A.2A

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**2b** Solve division problems with positive/negative numbers. [LC.7.NS.A.2B](#)

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**3a** Solve one step addition, subtraction, multiplication, division problems with fractions, decimals, and positive/negative numbers. [LC.7.NS.A.3A](#)

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**3b** Solve two step addition, subtraction, multiplication, and division problems with fractions, decimals, or positive/negative numbers. [LC.7.NS.A.3B](#)

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## Expressions and Equations [EE](#)

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**1a** Add and subtract linear expressions. [LC.7.EE.A.1A](#)

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**1b** Factor and expand linear expressions. [LC.7.EE.A.1B](#)

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**3a** Identify an equivalent fraction, decimal and percent when given one of the three numbers. [LC.7.EE.B.3A](#)

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**3b** Solve real-world multi-step problems using whole numbers. [LC.7.EE.B.3B](#)

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**4a** Solve equations with 1 variable based on real-world problems. [LC.7.EE.B.4b](#) Set up equations with 1 variable based on real-world problems. [LC.7.EE.B.4A](#)

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**4c** Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. [LC.7.EE.B.4C](#)

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**4d** Use a calculator to solve word problems leading to inequalities of the form  $px + q > r$ ,  $px + q \geq r$ ,  $px + q < r$ , or  $px + q \leq r$  where  $p$ ,  $q$ , and  $r$  are specific rational numbers. [LC.7.EE.B.4D](#)

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## Geometry [G](#)

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**1a** Solve problems that use proportional reasoning with ratios of length and area. [LC.7.G.A.1A](#)

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**1b** Solve one step real world problems related to scaling. [LC.7.G.A.1B](#)

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**2** Construct or draw plane figures using properties. [LC.7.G.A.2](#)

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**3** Describe the two-dimensional figures that result from a decomposed three-dimensional figure. [LC.7.G.A.3](#)

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**4** Apply formula to measure area and circumference of circles. [LC.7.G.B.4](#)

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**5a** Identify supplementary angles. [LC.7.G.B.5A](#)

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**5b** Identify complimentary angles. [LC.7.G.B.5B](#)

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**5c** Identify adjacent angles. [LC.7.G.B.5C](#)

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**5d** Use angle relationships to find the value of a missing angle. [LC.7.G.B.5D](#)

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- 6a** Add the area of each face of a prism to find surface area of three dimensional objects. LC.7.G.B.6A
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- 6b** Find the surface area of three-dimensional figures using nets of rectangles or triangles. LC.7.G.B.6B
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- 6c** Find area of plane figures and surface area of solid figures (quadrilaterals). LC.7.G.B.6C
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- 6d** Solve one step real world measurement problems involving area, volume, or surface area of two and three-dimensional objects. LC.7.G.B.6D
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**Statistics and  
Probability** SP

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- 1** Determine sample size to answer a given question. LC.7.SP.A.1
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- 2** Analyze graphs to determine or select appropriate comparative inferences about two samples or populations. LC.7.SP.A.2
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- 3** Make or select a statement to compare the distribution of 2 data sets. LC.7.SP.B.3
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- 4a** Identify the range (high/low), median(middle), mean, or mode of a given data set. LC.7.SP.B.4A
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- 4b** Analyze graphs to determine or select appropriate comparative inferences about two samples or populations. LC.7.SP.B.4B
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- 4c** Make or select an appropriate statements based upon two unequal data sets using measure of central tendency and shape. LC.7.SP.B.4C
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- 5a** Describe the probability of events as being certain or impossible, likely, less likely or equally likely. LC.7.SP.C.5A
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- 5b** State the theoretical probability of events occurring in terms of ratios (words, percentages, decimals). LC.7.SP.C.5B
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- 6** Make a prediction regarding the probability of an event occurring; conduct simple probability experiments. LC.7.SP.C.6
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- 7** Compare actual results of simple experiment with theoretical probabilities. LC.7.SP.C.7
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- 8a** Determine the theoretical probability of multistage probability experiments (2 coins, 2 dice). LC.7.SP.C.8A
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- 8b** Collect data from multistage probability experiments (2 coins, 2 dice). LC.7.SP.C.8B
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- 8c** Compare actual results of multistage experiment with theoretical probabilities. LC.7.SP.C.8C
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