Content Standard	***MAFS.6.RP*** *Ratios and Proportional Relationships.* ***MAFS.6.RP.1*** *Understand ratio concepts and use ratio reasoning to solve problems.* ***MAFS.6.RP.1.3*** Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations. ***MAFS.6.RP.1.3a*** Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios. ***MAFS.6.RP.1.3b*** Solve unit rate problems including those involving unit pricing and constant speed. *For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?* ***MAFS.6.RP.1.3c*** Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent. ***MAFS.6.RP.1.3d*** Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities. ***MAFS.6.RP.1.3e*** Understand the concept of Pi as the ratio of the circumference of a circle to its diameter.
Assessment Limits	Rates can be expressed as fractions, with ":" or with words. Units may be the same or different across the two quantities. Percent found as a rate per 100.
Calculator	No
Acceptable Response Mechanisms	Equation Response Graphic Response — Drawing, Drag and Drop Multiple Choice Response Table Response
Context	Allowable
Example	
Context	Generally, one number in the given ratio is single-digit. 10% (percentages built on this).
Context easier	Use numbers in the ratio that divide evenly (compatible) or are multiples of 10. Generally, both numbers in the given ratio are single-digit. 75%, 50%, 25%.
Context more difficult	Generally, both numbers in the given rate are double-digit. Use numbers that are not compatible. All whole number percentages.

<table>
<tr><th>Sample Item Stem</th><th>Response Mechanism</th><th>Notes, Comments</th></tr>
<tr><td>A paint mixture uses a specific blue to green ratio.

Complete the table using the ratio given.

<table><tr><th colspan="2">Paint Mixture</th></tr><tr><th>Blue Paint</th><th>Green Paint</th></tr><tr><td>2</td><td>5</td></tr><tr><td>4</td><td></td></tr><tr><td>6</td><td></td></tr></table></td><td>Table Response</td><td></td></tr>
<tr><td>A table of equivalent ratios is shown.

[table with (2, 20), (4, 40), (6, 60) and (8, 80)]

Use the Add Point tool to plot these points on the coordinate grid.</td><td>Graphic Response — Drawing</td><td></td></tr>
<tr><td>Tom knows that, in his school, 10 out of every 85 students are left-handed. There are 391 students in Tom’s school.

How many students in Tom’s school are left-handed?</td><td>Equation Response</td><td></td></tr>
<tr><td>The standard length of film on a film reel is 300 meters. On the first day of shooting a movie, a director uses 30% of the film in one reel. How long is the strip of film that was used?</td><td>Equation Response</td><td></td></tr>
<tr><td>Sam is taking a trip to another town. He has traveled 33 miles and knows that 55% of his trip is complete.

How many total miles is Sam’s trip?</td><td>Equation Response</td><td></td></tr>
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