

Topic 6 Percents and Decimals - Study Guide

Standards

7.NS.A.2b

Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.

7.NS.A.2d

Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.

Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.

7.NS.A.3

Solve real-world and mathematical problems involving the four operations with rational numbers.

7.RP.A.3

Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.

For your test, be able to:

- Identify if a given number is a repeating or terminating decimal
- Use long division to write the decimal expansions of fractions
 - Use the correct notation if decimal is repeating (i.e. $0.\overline{16}$ or $0.1666\dots$)
- Remember that whole numbers are considered terminating decimals
- Convert a mixed number into a decimal using long division.
 - Example: Write $4\frac{5}{8}$ as a decimal.
- Use understanding of percents greater than 100% to make estimations.
 - Example: Is 400% of 6 less than 10, greater than 10 but less than 100, or greater than 100?
- Write percents that are less than 1% as decimals
 - Example: Write 0.24% as a decimal
- Write fractional percents as the fraction of a quantity
 - Example: $\frac{15}{17}\%$ of a quantity is equal to what fraction of a quantity?
 - Hint: Use flip trick to divide by 100
- Solve word problems looking for part, percent or whole using the percent equation or a proportion.
 - Percent equation: $part = \% \times whole$
 - Proportion: $\frac{part}{whole} = \frac{\%}{100}$
- Write ratios as fractions, decimals, and percents
- Find the percent error using the following formula:
 - Percent error = $\frac{|measured\ or\ estimated\ value - actual\ value|}{actual\ value} \times 100$
- Find amount of commission given commission rate