

Form Switch

Rewrite rational numbers to solve problems.

GRADE 7 • MA.7.NSO.1.2

MA.7.NSO.1.2 "Rewrite rational numbers in different but equivalent forms including fractions, mixed numbers, repeating decimals and percentages to solve mathematical and real-world problems."

NAME _____

DATE _____

CHANGE THE FORM

A rational number can be written as a fraction, decimal, mixed number, or percent without changing its value. To change a decimal to a percent, multiply by 100. A fraction whose simplified denominator has only factors of 2 and 5 terminates, while some other fractions repeat.

WORKED EXAMPLE

Rewrite $\frac{4}{9}$ as a decimal and a percent.

1. Divide 4 by 9: $\frac{4}{9} = 0.444\ldots$
2. Multiply the decimal by 100: $0.444\ldots \times 100 = 44.444\ldots$
3. Write the percent symbol.

Answer: 0.444... and 44.444...%

PRACTICE 6 problems

- 1** Rewrite $\frac{3}{5}$ as a decimal and a percent.

ANSWER _____

- 2** Rewrite 0.125 as a fraction in simplest form and as a percent.

ANSWER _____

- 3** Rewrite $\frac{7}{2}$ as a mixed number, decimal, and percent.

ANSWER _____

- 4** Rewrite 0.666... as a fraction in simplest form and as a percent.

ANSWER _____

- 5** Rewrite 15% as a decimal and a fraction in simplest form.

ANSWER _____

- 6** Rewrite $\frac{5}{6}$ as a decimal and a percent.

ANSWER _____

APPLY IT Show your work

- 1** At an esports club, $\frac{3}{8}$ of 32 members signed up for a tournament. Rewrite $\frac{3}{8}$ as a percent. Then find how many members signed up.

WORK SPACE

ANSWER _____

- 2** A game download normally costs \$36. A sale takes $16\frac{2}{3}\%$ off the price. Rewrite the percent as a fraction, then find the discount and sale price.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A student says that $0.333\ldots$ is equal to $\frac{1}{3}$. Is the student correct? Explain by using x to rewrite the repeating decimal as a fraction.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Rewrite $\frac{3}{5}$ as a decimal and a percent.	0.6 and 60%
2	Rewrite 0.125 as a fraction in simplest form and as a percent.	$\frac{1}{8}$ and 12.5%
3	Rewrite $\frac{7}{2}$ as a mixed number, decimal, and percent.	$3\frac{1}{2}$, 3.5, and 350%
4	Rewrite 0.666... as a fraction in simplest form and as a percent.	$\frac{2}{3}$ and 66.666...%
5	Rewrite 15% as a decimal and a fraction in simplest form.	0.15 and $\frac{3}{20}$
6	Rewrite $\frac{5}{6}$ as a decimal and a percent.	0.833... and 83.333...%

PART 2 • APPLY IT

- 37.5%; 12 members** Rewrite $\frac{3}{8}$ as 0.375, or 37.5%. Find $\frac{3}{8}$ of 32: $32 \div 8 = 4$, and $4 \times 3 = 12$.
- $\frac{1}{6}$; \$6 discount; \$30 sale price** $16\frac{2}{3}\%$ is $\frac{1}{6}$. One sixth of \$36 is \$6, and $\$36 - \$6 = \$30$.

CHALLENGE

Yes. Let $x = 0.333...$. Then $10x = 3.333...$. Subtract: $10x - x = 3$, so $9x = 3$ and $x = \frac{1}{3}$.

Accept equivalent notation for repeating decimals, such as $0.(6)$, if it clearly shows the repeating digit. Fractions should be in simplest form unless the item asks for another form.