

# 6-1 Introduction to Percents



California  
Standards

***Learning Objective:***

***We will calculate<sup>1</sup> percentages.***

***<sup>1</sup>solve, compute***

NS1.4 Calculate given percentages of quantities and solve problems involving discounts at sales, interest earned, and tips.

Pre-pronounce, choral read, What are we learning today? PS, 2x

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# 6-1 Introduction to Percents

## Warm Up

Write each fraction as a decimal.

1.  $\frac{3}{4}$  **0.75**

2.  $\frac{3}{8}$  **0.375**

APK: Teacher models one, students WB second

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# 6-1 Introduction to Percents

Concept

## ***Vocabulary***

### percent

A percent is a ratio of a number to 100. The symbol % is used to indicate a percent.

### Reading Math

The word *percent* means “per hundred.” So 6% means “6 out of 100.”

Pre-pronounce, choral read, What is % PS, 2x

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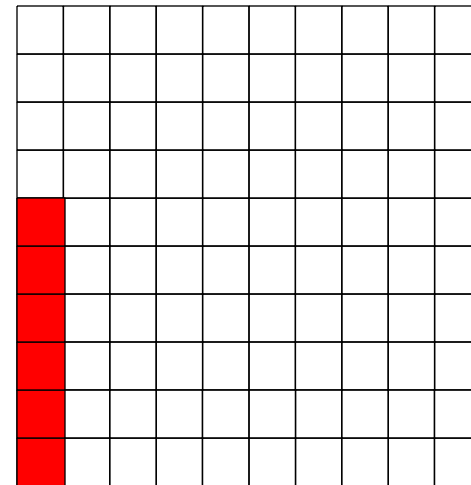
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example

Notice the 10 x 10 square grid. There are 100 total squares. Six of the squares are colored. Six red squares of 100 total squares can be shown like this:



$$\frac{6}{100} = 6\%$$

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**Which of the following is an example of a percent?**

**A    76            B    32%**

**How do you know that? PS 3x**

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# 6-1 Introduction to Percents

## Importance

**You need to know how to calculate percent**

- \*to do well on the CSTs and benchmarks**
- \*to calculate your savings on purchased items**
- \*to calculate interest on borrowed money**

**Here's a sample release question...**

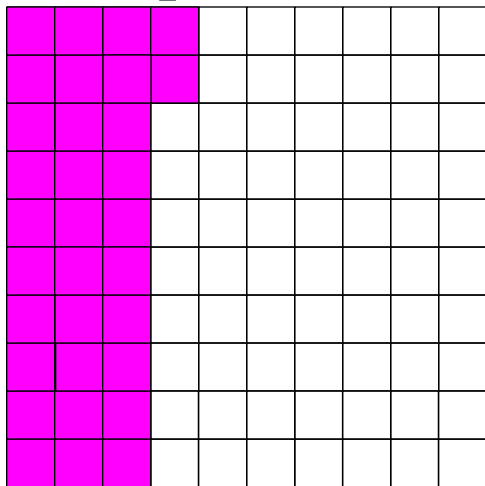


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## Example 1: Modeling Percents

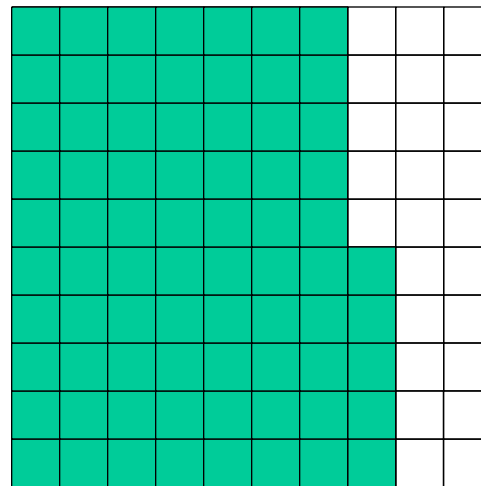
Write the percent modeled by each grid.

A.



$$\frac{\text{shaded}}{\text{total}} \begin{array}{l} \longrightarrow \\ \longrightarrow \end{array} \frac{32}{100} = 32\%$$

I do: How did I determine the percent modeled?



$$\frac{\text{shaded}}{\text{total}} \begin{array}{l} \longrightarrow \\ \longrightarrow \end{array} \frac{75}{100} = 75\%$$

We do

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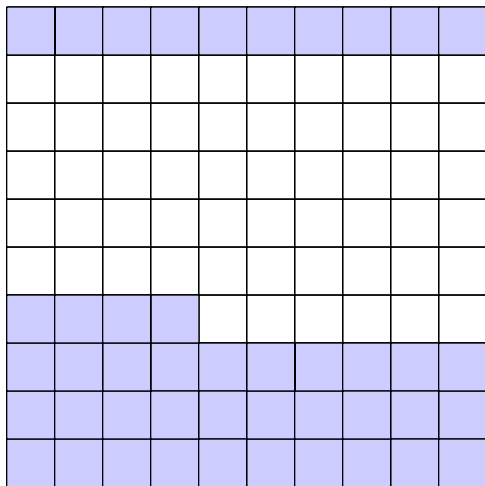
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## Check It Out!

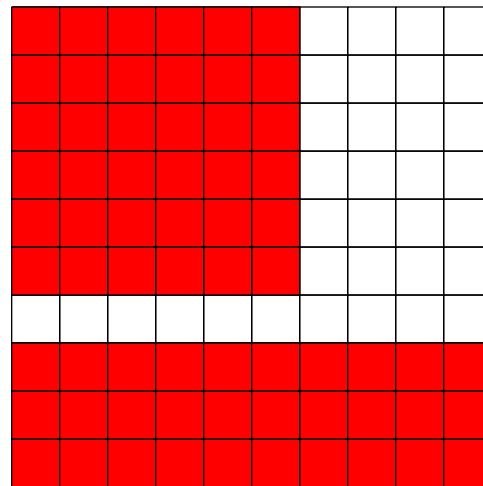
Write the percent modeled by each grid.

A.



$$\frac{\text{shaded}}{\text{total}} \longrightarrow \frac{44}{100} = 44\%$$

I do: How did I determine the percent modeled?



$$\frac{\text{shaded}}{\text{total}} \longrightarrow \frac{66}{100} = 66\%$$

We do

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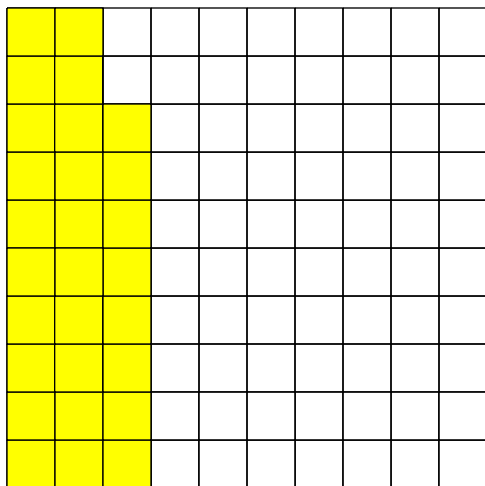
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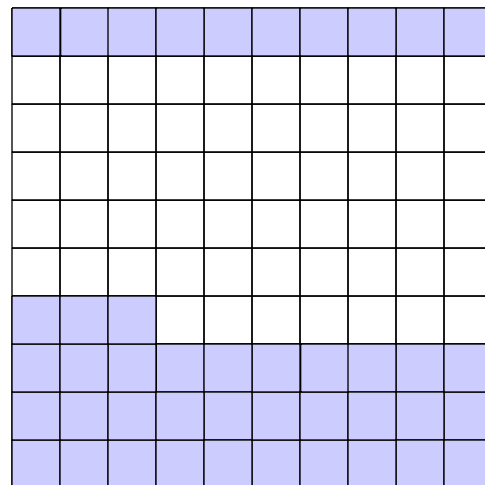
Write the percent modeled by each grid.

A.



28%

$\frac{\text{shaded}}{\text{total}}$



43%

You do

How did you determine the percent modeled? PS 3x

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# 6-1 Introduction to Percents

## Variation 2

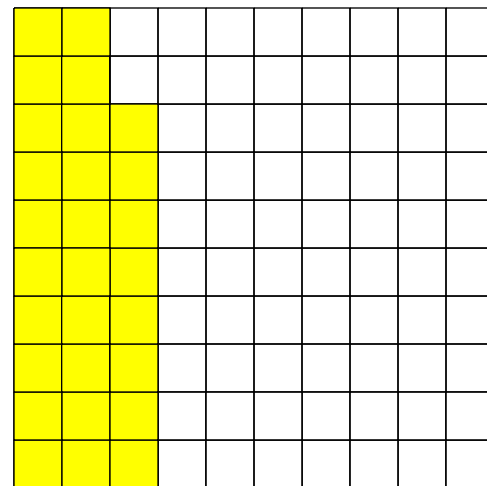
### Writing Percents as Fractions

Write 28% as a fraction in simplest form.

$$28\% = \frac{28}{100} \quad \textit{Write the percent as a fraction with a denominator of 100.}$$

$$= \frac{7}{25} \quad \textit{Simplify.}$$

So 28% can be written as  $\frac{7}{25}$ .



I do: What did I do to make 28% a fraction in simplest form?

PS 3x

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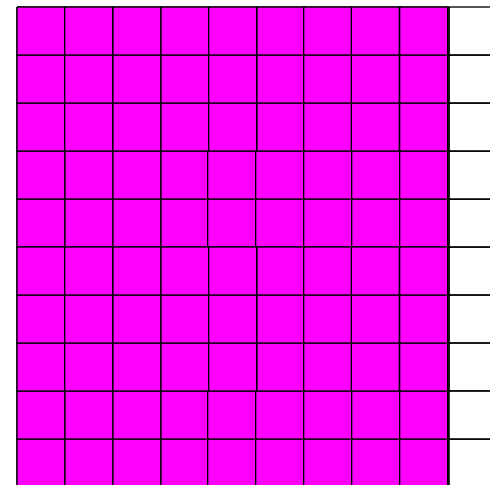
## Check It Out!

Write 90% as a fraction in simplest form.

$$90\% = \frac{90}{100} \quad \text{Write the percent as a fraction with a denominator of 100.}$$

$$= \frac{9}{10} \quad \text{Simplify.}$$

So 90% can be written as  $\frac{9}{10}$ .



We do: How did we calculate 90% as a fraction in its simplest form? PS 3x

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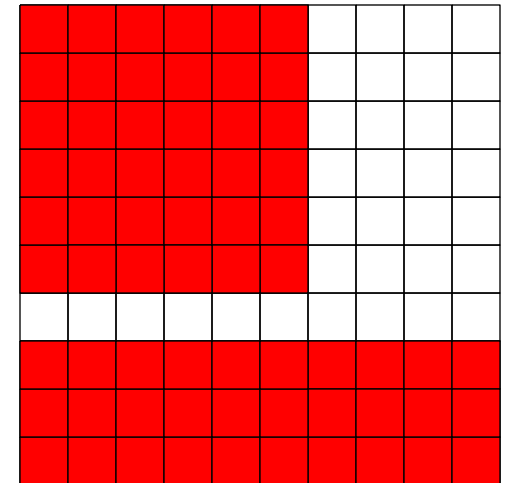
## Check It Out! Example 3

Write 66% as a fraction in simplest form.

$$66\% = \frac{66}{100} \quad \text{Write the percent as a fraction with a denominator of 100.}$$

$$= \frac{33}{50} \quad \text{Simplify.}$$

So 66% can be written as  $\frac{33}{50}$ .



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## Additional Example 3: Writing Percents as Decimals

Write 17% as a decimal.

### Method 1

Use pencil and paper.

$$17\% = \frac{17}{100} \quad \textit{Write the percent as a fraction with a denominator of 100.}$$

$$= 0.17 \quad \textit{Divide 17 by 100.}$$

### Method 2      Use mental math.

$$\overset{\uparrow}{\underbrace{17\%}} = 0.17 \quad \textit{Move the decimal point two places to the left.}$$

I do: How did I calculate the percent to a decimal? PS 3x

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## Check It Out! Example 3

Write 24% as a decimal.

### Method 1

Use pencil and paper.

$$24\% = \frac{24}{100}$$

*Write the percent as a fraction with a denominator of 100.*

$$= 0.24$$

*Divide 24 by 100.*

### Method 2

Use mental math.

$$24\% = 0.24$$

*Move the decimal point two places to the*

I do: How did I calculate the percent to a decimal? PS 3x  
*left.*

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## Check It Out! Example 3 You Do It!

Write 44% as a decimal.

### Method 1

Use pencil and paper.

$$44\% = \frac{44}{100}$$

*Write the percent as a fraction with a denominator of 100.*

$$= 0.44$$

*Divide 44 by 100.*

### Method 2

Use mental math.

$$44\% = 0.44$$

*Move the decimal point two places to the left.*

I do: How did I calculate the percent to a decimal? PS 3x

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## 6-1 Introduction to Percents

### ***Review - Vocabulary***

**What is a ratio of a number to 100 that means “per hundred?”**

#### **WB**

**A percent is a ratio of a number to 100. The symbol % is used to indicate a percent.**

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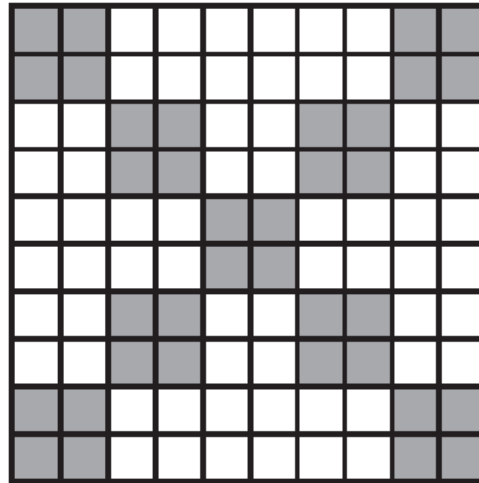


# 6-1 Introduction to Percents

## Lesson Quiz

1. Write the percent modeled by the grid.

36%



2. Write 92% as a fraction in simplest form.

$\frac{23}{25}$

3. Write 16.4% as a decimal.

0.164

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