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Unit 3, Lesson 16

# Finding the Percentage

Let’s find percentages in general.

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## 16.1Math Talk: Fractions and Decimals

Decide mentally if each equation is true or false.

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## 16.2Jumping Rope

In a jump-roping contest, four students have a goal of jumping rope for 20 minutes.

* Diego jumped rope for 20 minutes.
* Jada jumped rope for 15 minutes.
* Lin jumped rope for 24 minutes.
* Noah jumped rope for 9 minutes.



1. Answer each question, and record it in the table.
   * What percentage of the goal did each student reach?
   * What fraction of the goal did each student reach?
   * Write each fraction of the goal in decimal form.

|  | * time (minutes) | * percentage of goal | * fraction of goal | * fraction in decimal form |
| --- | --- | --- | --- | --- |
| * Diego |  |  |  |  |
| * Jada |  |  |  |  |
| * Lin |  |  |  |  |
| * Noah |  |  |  |  |

1. What do you notice about the numbers in “percentage of goal” and “fraction in decimal form” columns?
2. Han jumped for minutes. Write an expression that shows:
   * The fraction of the goal he reached.
   * The percentage of the goal he reached.

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## 16.3Restaurant Capacity

A restaurant has a sign by the front door that says, “Maximum occupancy: 75 people.”

Answer each question and explain or show your reasoning.

1. What percentage of its capacity is 9 people?
2. What percentage of its capacity is 51 people?
3. What percentage of its capacity is 84 people?

### Are you ready for more?

Of all the Earth’s water, 96% is salt water in oceans and 4% is fresh water in lakes, rivers, glaciers, and polar ice caps.

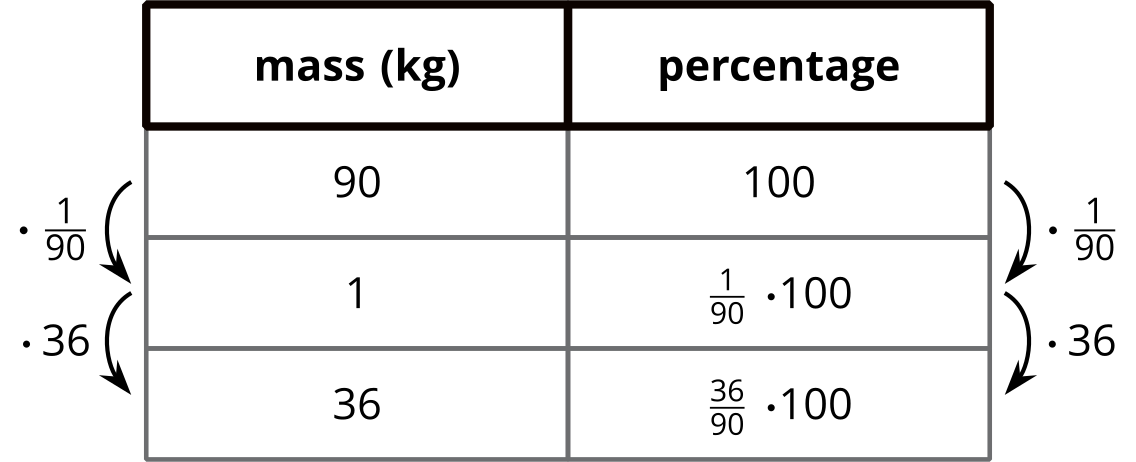
The total volume of water on Earth is 1,386 million km3.

1. What is the volume of salt water?
2. What is the volume of fresh water?

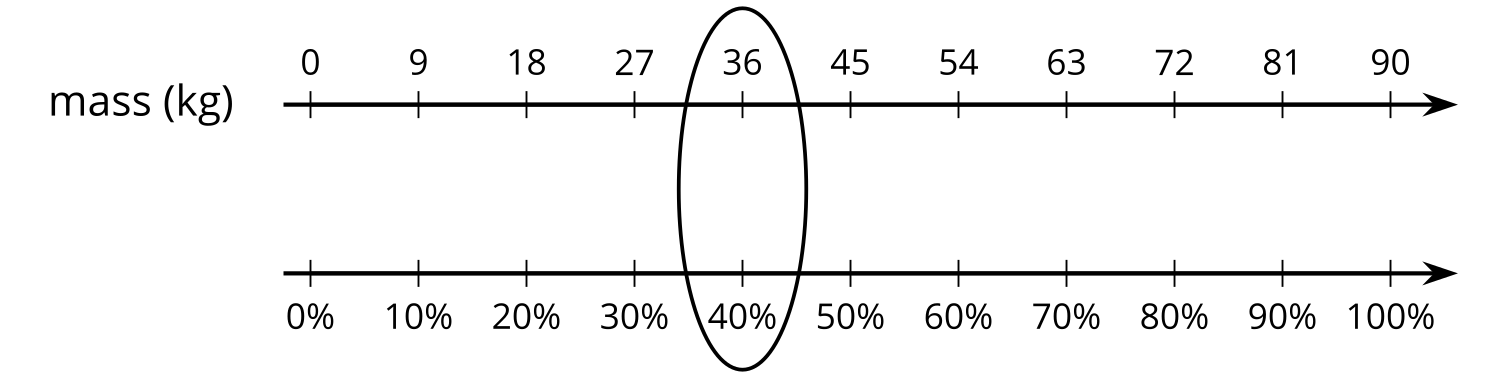
## Lesson 16 Summary

What percentage of 90 kg is 36 kg?

One way to solve this problem is to first find what percentage 1 kg is of 90, and then multiply by 36.



From the table we can see that 1 kg is , so 36 kg is or 40% of 90. We can confirm this on a double number line diagram:



In general, to find what percentage a number is of another number , find  of 100%, or calculate .

Suppose a school club has raised $88 for a project but needs a total of $160. What percentage of its goal has the club raised?

To find what percentage $88 is of $160, we find of 100% or , which equals , or 55. The club has raised 55% of its goal.