

Grade 6 · Percents · Lesson

Common Core 6.RP.A.3c · mathovore.fr

A percent is a ratio that compares a quantity to 100, so 35% means 35 out of every 100. Percents convert to fractions and decimals: $35\% = \frac{35}{100} = 0.35$. To find a percent of a quantity, multiply by the decimal; to find the whole, divide the part by the percent as a decimal.

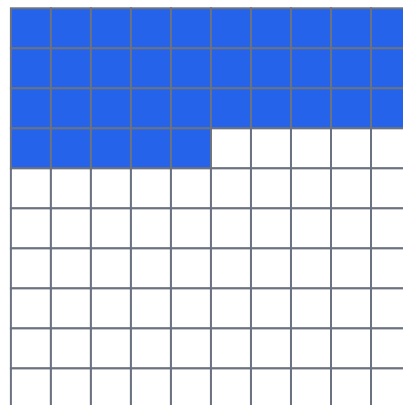
Grade 6 Common Core: 6.RP.A.3c

Key facts:

- A percent is a rate per 100: $35\% = \frac{35}{100} = 0.35$.
- To find a percent of a number, multiply the number by the percent written as a decimal.
- To find the whole, divide the part by the percent written as a decimal.
- To find what percent a part is, divide the part by the whole and multiply by 100.
- A percent bar model shows 100% split into equal parts.

What is a percent?

A **percent** is a ratio that compares a quantity to 100. The word comes from "per hundred." If 35 out of every 100 students at a school ride the bus, then 35% of the students ride the bus.



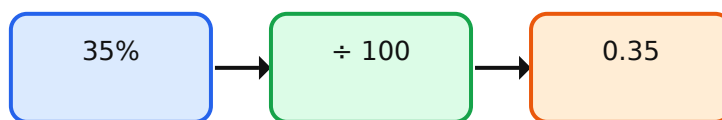
35 out of 100
= 35%

A hundred grid: 35 of 100 squares are shaded, so 35%.

Percent, fraction, and decimal

$35\% = \frac{35}{100} = 0.35$. To change a percent to a decimal, divide by 100 (move the decimal point two places left). To change a decimal to a percent, multiply by 100.

How do you convert between percents, fractions, and decimals?



Percent to decimal: divide by 100.

Percent	Fraction	Decimal
25%	$\frac{1}{4}$	0.25
60%	$\frac{3}{5}$	0.6
75%	$\frac{3}{4}$	0.75
8%	$\frac{2}{25}$	0.08

To turn a fraction into a percent, write an equivalent fraction with denominator 100, or divide the numerator by the denominator and multiply by 100. For $\frac{3}{8}$: $3 \div 8 = 0.375 = 37.5\%$.

How do you find a percent of a quantity?

Use the rate "per 100." Since 25% means 25 for every 100, the percent of a number is the same as that fraction of the number.

1. Write the percent as a decimal or fraction.
2. Multiply it by the whole.
3. Label the answer with the correct units.

Example. Find 25% of 80. Compute $0.25 \times 80 = 20$. A quick check: 25% is one fourth, and $80 \div 4 = 20$.



A percent bar for a whole of 80. Each part is 25%, or 20.

How do you find the whole when you know a part and the percent?

Divide the part by the percent written as a decimal. Suppose 30% of a number is 21. Then $21 \div 0.30 = 70$. Check: $0.30 \times 70 = 21$. On a bar model, 30% is 3 of the 10 equal parts, so one part (10%) is $21 \div 3 = 7$, and the whole (10 parts) is $7 \times 10 = 70$.

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30% of 70 is 3 parts of 7, which is 21; the whole is 10 parts, or 70.

To find what percent one number is of another, divide the part by the whole: 18 out of 24 is $18 \div 24 = 0.75 = 75\%$.

Percents: frequently asked questions

What does percent mean?

Percent means per 100. A score of 80% means 80 out of every 100, which is the same as the fraction $\frac{80}{100}$ or the decimal 0.80.

How do you change a percent to a decimal?

Divide the percent by 100, which moves the decimal point two places to the left. For example, 6% becomes 0.06 and 125% becomes 1.25.

How do you find a percent of a number?

Convert the percent to a decimal and multiply. To find 15% of 60, compute 0.15 times 60, which equals 9.

How do you find the whole if you know a part and the percent?

Divide the part by the percent written as a decimal. If 40% of a class is 18 students, the class has 18 divided by 0.40, or 45 students.

Can a percent be greater than 100%?

Yes. A percent greater than 100% means more than the whole. For example, 150% of 40 is 60, because 1.5 times 40 equals 60.