

MATH SKILLS PRACTICE

PERCENTS



**To find a percent, create a fraction and then convert it into a percent.
For example:**

Of the 20 students in a class, 5 wrote essays about animals. What percent of the class wrote essays about animals. First, find what fraction of the students wrote about

animals: $\frac{5}{20}$'s of the students wrote about animals

Reduce the fraction if possible: $\frac{5}{20} = \frac{1}{4}$

To convert the fraction into a percent, divide the denominator into the numerator and multiply your answer by 100. Then add a percent sign.

$$\frac{1}{4} = 1 \div 4 = 0.25 \qquad 0.25 \times 100 = 25\%$$

25% of the class wrote essays about animals.



Now try these two problems. (check answers below)

1. Of the 32 students in a class, 16 chose hamburgers for lunch. What percent of the class will eat hamburgers for lunch?

$\frac{16}{32}$ Reduce to

$$1 \div ? =$$

(Multiply the answer by 100 and add the % sign)

2. Of 40 students, 26 went to the Science Museum, 10 went to the Technology Show and 4 went to the Art Museum. What percent of the class went to the Art Museum?



MATH SKILLS PRACTICE

COMPARING FRACTIONS

How to put 3 fractions in order from least to greatest:

In fractions, the top number is called the **numerator** and the bottom number, the **denominator**.

To compare fractions, you must have a common denominator. You find the common denominator, by finding the LCM (**least common multiple**) of the denominators.

For example, put these fractions in order from least to greatest: $\frac{3}{5}, \frac{2}{3}, \frac{1}{10}$

First you find the LCM for the denominators 10 and 5 and 3. The least common multiple would be 30.



This means that 30 is the smallest number that can be divided by 10 and 5 and 3 evenly.

Math rule:

whatever you do to the numerator you must do the same to the denominator and whatever you do to the denominator you must do the same to the numerator

Now, you must change all three fractions to 30ths. To do this, we multiply to get the equivalent fractions with 30 as the common denominator:

(if we multiply 10 by 3 to get a denominator of 30, we must multiply the 1 x 3 which gives us 3)

$$\frac{3}{5} \times \frac{6}{6} = \frac{18}{30} \quad \text{and} \quad \frac{2}{3} \times \frac{10}{10} = \frac{20}{30} \quad \text{and} \quad \frac{1}{10} \times \frac{3}{3} = \frac{3}{30}$$

With common denominators, we can now compare the fractions:

$$\frac{3}{5} = \frac{18}{30} \quad \frac{2}{3} = \frac{20}{30} \quad \frac{1}{10} = \frac{3}{30}$$

so the fractions from least to greatest are: $\frac{1}{10}, \frac{3}{5}, \frac{2}{3}$

Put these four fractions in order: $\frac{5}{8}, \frac{7}{16}, \frac{3}{4}, \frac{1}{2}$



Now pick three fractions and try to find the right order from least to greatest.



MATH SKILLS PRACTICE

FINDING PERCENTS

To find the percent we have to change the percent to a decimal and then multiply.
For example, what is 5% of 60?

To change 5% to a decimal, divide 5 by 100 (the shortcut way is to move the decimal point to places to the left; 5 is the same as 5.0 so 5 divided by 100 is .05 or 0.05)

$$5 \div 100 = 0.05$$

Now multiply $0.05 \times 60 = 3$

$$\begin{array}{r} 60 \\ \times 0.05 \\ \hline 0300 \end{array}$$

(move the decimal point two places left) $03.00 = 3$

What is 25% of 200?

Change 25% to a decimal by dividing by 100 or moving the decimal point two places to the left

25 divided by 100 is 0.25

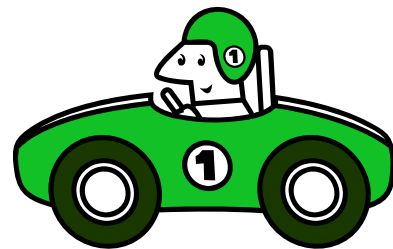
Now multiply 0.25×200

$$\begin{array}{r} 200 \\ \times 0.25 \\ \hline 050.00 = 50.00 \text{ or } 50 \end{array}$$

So 25% of 200 is 50

Try these problems:

1. What is 15% of 300?



2. Dug received his commission of \$8000 for selling cars plus a 10% bonus of his commission. Which formula below shows the right way to find his total pay?

- A. $8000 + (10 + 8000)$
- B. $8000 + 10$
- C. $8000 + (0.10 \times 8000)$
- D. 8000×0.10