



G*Y*M

PERCENTS & DECIMALS

Let's go, polliwogs!

In just two months, you will be traveling to take part in the World Math Olympiad Championships.

I will not have you embarrass my beloved Academy by failing to perform the most basic of conversions.

You will be expected to convert quickly between fractions, decimals, and percents.

Begin by converting each of these percents into a decimal.

35%
430%
0.05%

We know how to convert percents to fractions.

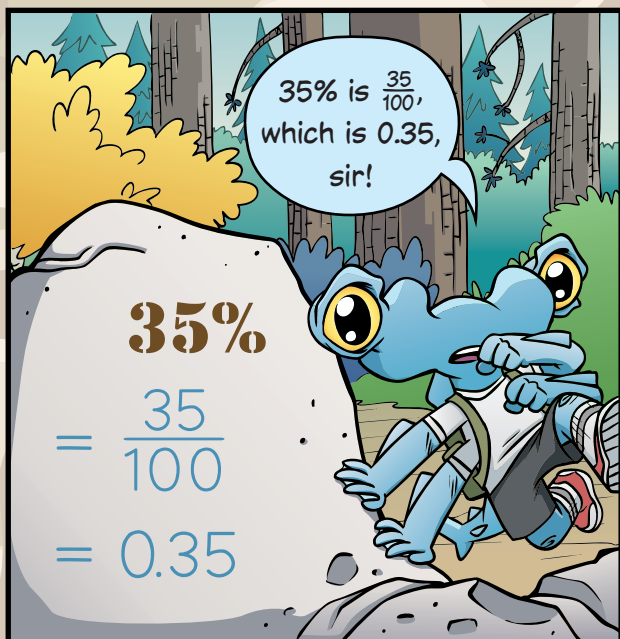
And we know how to convert fractions to decimals.

...then change the fractions into decimals!

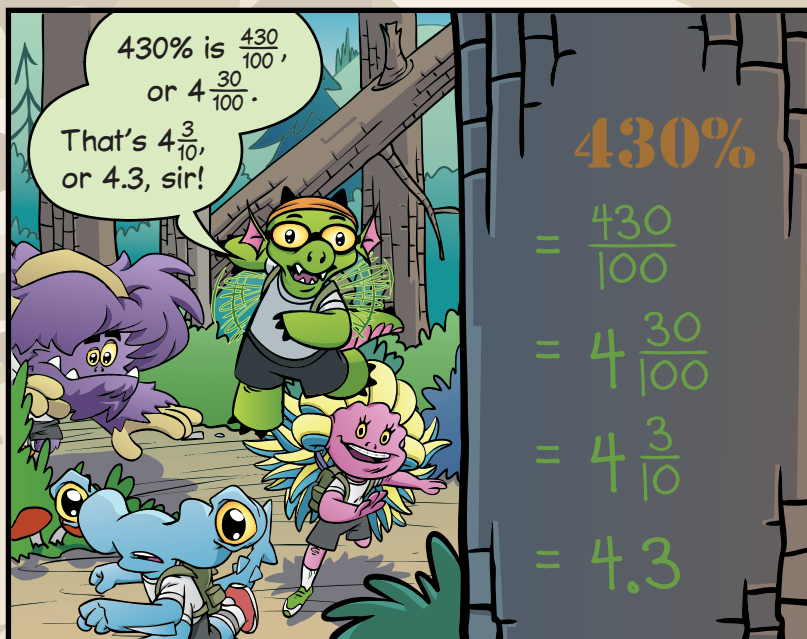
So, we can write the percents as fractions...

Get to it then, tadpoles!

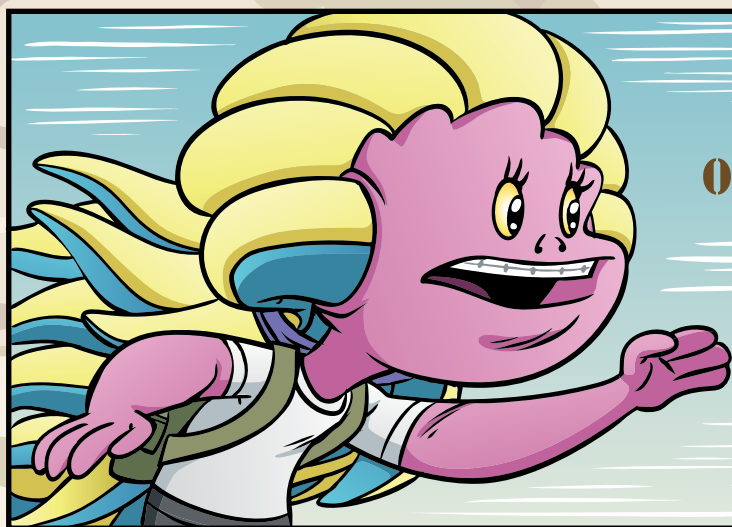
Try all three.



35% is $\frac{35}{100}$,
which is 0.35,
sir!

$$35\% = \frac{35}{100} = 0.35$$


430% is $\frac{430}{100}$,
or $4\frac{30}{100}$.
That's $4\frac{3}{10}$,
or 4.3, sir!

$$430\% = \frac{430}{100} = 4\frac{30}{100} = 4\frac{3}{10} = 4.3$$


$0.05\% = \frac{0.05}{100} = \frac{5}{10,000} = 0.0005$

0.05% is $\frac{0.05}{100}$, which is $\frac{5}{10,000}$.

To write $\frac{5}{10,000}$ as a decimal, we put a 5 in the 10,000ths place, sir!
 $0.05\% = 0.0005$.



Affirmative.

If you can convert a percent to a decimal, you can convert a decimal to a percent.

Convert each of these decimals to a percent.

0.08
0.4
0.00246

Try all three.

$$\begin{aligned} 0.08 \\ &= \frac{8}{100} \\ &= 8\% \end{aligned}$$

0.08 is $\frac{8}{100}$,
which is
8%, sir!

0.4 is 0.40,
or $\frac{40}{100}$.

$$\begin{aligned} 0.40 \\ &= \frac{40}{100} \\ &= 40\% \end{aligned}$$

That's
40%, sir!

Next, we
need to find
out what number
over 100 equals
0.00246.

$$0.00246 = \frac{x}{100}$$

We can
write an
equation.

$$0.00246 \cdot 100 = \frac{x}{100} \cdot 100$$

$$0.246 = x$$

Multiplying
both sides of
the equation
by 100, we get
 $x = 0.246$.

$$0.00246 = \frac{0.246}{100} = 0.246\%$$

So,
0.00246
equals 0.246
over 100...

...which
means
0.00246 is
0.246%,
sir.

Good work,
hammerhead.
Who sees a
pattern in these
conversions?

Notice
any
patterns?