

# Multiply and Divide Exponents

So, how do you multiply this:

$$(y^2)(y^3)$$

We know that  $y^2 = yy$ , and  $y^3 = yyy$  so let us write out all the multiplies:

$$y^2 y^3 = yyyyy$$

That is 5 "y"s multiplied together, so the new exponent must be 5:  $y^2 y^3 = y^5$   
So, the simplest method is to just add the exponents---as long as the variable is the same.---that is the letter y

## Divide Exponents

$$\frac{y^3}{y^2}$$

Just subtract the exponents of the variables you are dividing by!

$$y^{3-2} = y^1 = y$$