Percentages

Converting a decimal to a percent		Converting a percent to a decimal	
0.375 0.375 x 100 = 37.5%	Multiply the decimal by 100 (just move decimal point two places to right) and add % symbol	25% 25 ÷ 100 = 0.25	Divide the decimal by 100 (just move decimal point two places to the left), add 0's if necessary *Remember we assume that there is a decimal point to the right of any whole number*
Convert Fraction to percent		**Convert a percent to a fraction**	
$\frac{3}{4}$ $\frac{3}{4} = 0.75$ 75%	Convert fraction to a decimal by dividing Convert decimal to percent as example above	12.5% $\frac{12.5}{100}$ 12.5 → 125 100 → 1000 $\frac{125}{1000} = \frac{1}{8}$	Drop the % symbol and write the number over 100 Convert numerator to whole number by moving decimal point to right Add zeros to the denominator equal to number of places decimal point was moved above Simplify fraction

Example 1	Example 2	Example 3	% Increase/Decrease
What is 45% of 200? x = 45% of 200 x = 0.45 × 200 = 90	90 is 45% of what number? 90 = 45% of x 90 = 0.45x x = 90 ÷ 0.45 = 200	90 is what percent of 200? 90 = x% of 200 $90 = \frac{x}{100}(200)$ $90 = \frac{200}{100}$ x 90 = 2x x = 45	To increase a number by k%, multiply it by (1 + k%). To decrease a number by k%, multiply it by (1 – k%)

Example 4	Example 5	Example 6	Example 7
What is the value of a $1600 investment after a 25% increase? $1600(1 +25%) $1600(1 + 0.25) $1600(1.25) = $2000	What is the value of a $2000 investment if it loses 25%? $2000(1 - 25%) $2000(1 – 0.25) $2000(0.75) = $1500	If 25 students took an exam and 4 of them failed, what percent of them passed? 25 – 4 = 21 passed 21 ÷ 25 = 0.84 0.84 = 84% passed	What is 10% of 20% of 30%? $0.10 \times 0.20 \times 0.30$ = .006 = 0.6%