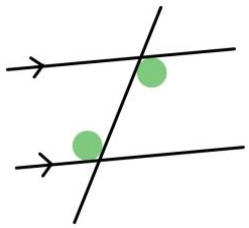
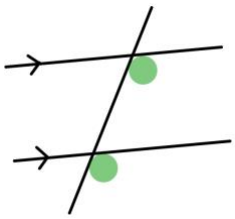
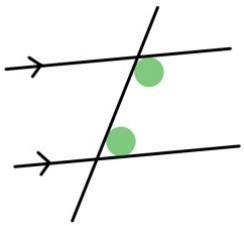
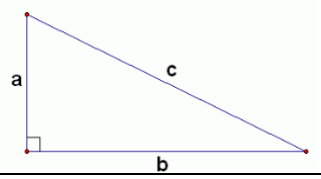
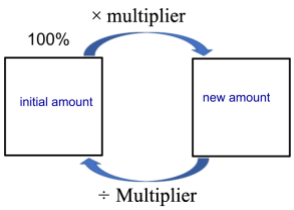
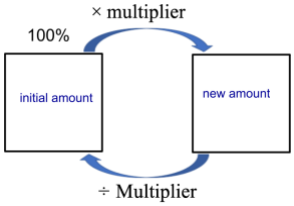
Year 10.1F Knowledge Sheet

A prime number	A number with only 2 factors
First 10 prime numbers	2, 3, 5, 7, 11, 13, 17, 19, 23, 29
Finding the highest common factor from a Venn Diagram	Multiply the terms in the middle of the Venn Diagram
Finding the lowest common multiple from a Venn Diagram	Multiply all of the terms in the Venn Diagram
All probabilities must be between	0 and 1
Relative frequency	Probability from an experiment
Probability of an event not happening	1 – the probability of the event happening
Circumference of a circle	$C = \pi d$
Area of a circle	$A = \pi r^2$
Multiplication law for indices	$a^b \times a^c = a^{b+c}$
Division law for indices	$a^b \div a^c = a^{b-c}$
Power to a power rule for indices	$(a^b)^c = a^{bc}$
Zero law for indices	$a^0 = 1$
Negative power law for indices	$\left(\frac{a}{b}\right)^{-c} = \left(\frac{b}{a}\right)^{c}$

Speed	$Speed = \frac{Distance}{Time}$
	Alternate angles are equal
	Corresponding angles are equal
	Co-interior angles add to 180^0
Sum of the interior angles of a polygon	$(n-2) \times 180$ n is the number of sides
Exterior angles of a polygon	Add up to 360^0
Each interior and each exterior angle of a polygon	Add up to 180^0
Tessellation	A pattern of shapes that fit together with no gaps
Quadratic expressions	An expression that contains at least one term that is squared

Factorising	The reverse process of expanding brackets
Difference of two squares	$a^2 - b \equiv (a + \sqrt{b})(a - \sqrt{b})$
Labelling a right-angled triangle for Pythagoras	
Pythagoras' Theorem	$a^2 + b^2 = c^2$
Ratio in the form 1: n	$x : y$ $1 : \frac{y}{x}$
Ratio as a fraction	$x : y$ $\frac{x}{x+y} : \frac{y}{x+y}$
Percentage change	$\frac{difference}{original}$ x 100
Converting percentages to decimals (percentage multiplier)	$Percentage \div 100$
Finding a percentage of an amount	Initial amount x multiplier 
Finding an original amount	New amount ÷ multiplier 

Simple interest	I = P r t I: interest P: Amount borrowed r: interest rate t: time
Compound interest	initial amount x $multiplier^{time}$