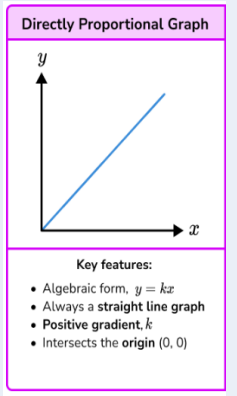
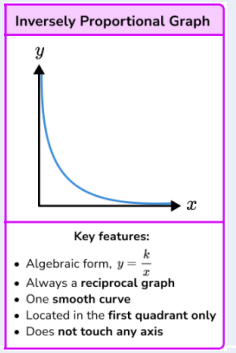
DIRECT AND INVERSE PROPORTION

Keywords:	Constant / Variable / Inverse / Proportionality				
Definition / Description :	**Constant:** An unvarying number or quantity	**Variable:** A quantity that can take a range of values	**Inverse:** The reverse or opposite	**Proportionality:** Quantities varying in a ratio	
Knowledge points:	**Direct proportion:** When one variable decreases the other increases	**Inverse Proportion:** When one variable increases the other decreases	**Algebraic Direct proportion:** $y = \frac{k}{x}$	**Algebraic Inverse Proportion:** $y = kx$	**Graphical representations**
Knowledge point examples:	Keith buys 6 pencils for 90p How much would 11 pencils cost? 6 pencils : 90p 1 pencil: 15p ÷ 6 11penciels : 165p x 15	If 6 men take 24 days to build a house, how long will it take 4 men to build the house? 6 men: 24 days 1 man : 144 days x 6 4 men : 36 days ÷ 4	The amount of paint required to paint a wall is directly proportional to the area of the wall. 2 litres of paint are required for a wall of 15m^2 Work out a formula for p paint required for a wall with an area of a m^2 $A = k \times p$ $K = 15 \div 2 = 7.5$ $A = 7.5p$ How much wall could I cover with 6 litres of paint? $A = 7.5 \times 6$ $A = 45m^2$	H is inversely proportional to the cube of f. When $h = 12.5$, $f = 2$ Find the value of h when $f = 5$. $h = k \div f^3$ $K = h \times f^3$ $K = 12.5 \times 2^3 = 100$ $h = 100 \div f^3$ When $f = 5$ $h = 100 \div 5^3 = 0.8$	 
Linked Knowledge Maps	Notation and manipulation Solving Linear Equations Measures Ratio				