



Note: A link to the associated YouTube tutorial can be found at [ALevelMathsRevision.com/bridging-the-gap/Q1, \(Jan 2006, Q5\)](https://www.youtube.com/watch?v=...)

Make C the subject of the formula $P = \frac{C}{C+4}$. [4]

Q2, (Jun 2006, Q1)

The volume of a cone is given by the formula $V = \frac{1}{3}\pi r^2 h$. Make r the subject of this formula. [3]

Q3, (Jan 2007, Q3)

Make a the subject of the equation

$$2a + 5c = af + 7c. \quad [3]$$

Q4, (Jun 2007, Q2)

Make t the subject of the formula $s = \frac{1}{2}at^2$. [3]

Q5, (Jan 2008, Q1)

Make v the subject of the formula $E = \frac{1}{2}mv^2$. [3]

Q6, (Jun 2008, Q5)

Make x the subject of the equation $y = \frac{x+3}{x-2}$. [4]

Q7, (Jan 2009, Q9)

Rearrange $y + 5 = x(y + 2)$ to make y the subject of the formula. [4]

Q8, (Jun 2009, Q2)

Make a the subject of the formula $s = ut + \frac{1}{2}at^2$. [3]

Q9, (Jan 2010, Q1)

Rearrange the formula $c = \sqrt{\frac{a+b}{2}}$ to make a the subject. [3]

Q10, (Jun 2010, Q3)

Make y the subject of the formula $a = \frac{\sqrt{y}-5}{c}$. [3]

Q11, (Jan 2011, Q5)

The volume V of a cone with base radius r and slant height l is given by the formula

$$V = \frac{1}{3}\pi r^2 \sqrt{l^2 - r^2}.$$

Rearrange this formula to make l the subject. [4]

Q12, (Jun 2011, Q8)

Make x the subject of the formula $y = \frac{1 - 2x}{x + 3}$. [4]

Q13, (Jan 2012, Q6)

Rearrange the following equation to make h the subject.

$$4h + 5 = 9a - ha^2$$
 [3]

Q14, (Jun 2012, Q2)

Make b the subject of the following formula.

$$a = \frac{2}{3} b^2 c$$
 [3]

Q15, (Jan 2013, Q3)

A circle has diameter d , circumference C , and area A . Starting with the standard formulae for a circle, show that $Cd = kA$, finding the numerical value of k . [3]

Q16, (Jan 2013, Q8)

Rearrange the equation $5c + 9t = a(2c + t)$ to make c the subject. [4]

Q17, (Jun 2013, Q4)

Rearrange the following formula to make r the subject, where $r > 0$.

$$V = \frac{1}{3} \pi r^2 (a + b)$$
 [3]

Q18, (Jun 2014, Q5)

Make a the subject of $3(a + 4) = ac + 5f$. [4]

Q19, (Jun 2015, Q1)

Make r the subject of the formula $A = \pi r^2 (x + y)$, where $r > 0$. [2]

Q20, (Jun 2016, Q4)

You are given that $a = \frac{3c + 2a}{2c - 5}$. Express a in terms of c . [4]

Q21, (Jun 2017, Q6)

Rearrange the formula $r = \sqrt{\frac{V}{a + b}}$ to make b the subject. [4]

Q22, (Jun 2018, Q4)

For the following equation, express x in terms of y .

$$\frac{x}{3y} = \frac{2x + 1}{y + 2}$$
 [4]
