Rearranging Equations 1

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Make x the subject of each!

(1) $x - y = z$

(2) $x + y = z$

(3) $\frac{x}{y} = z$

(4) $\frac{y}{x} = z$

(5) $xy = z$

(6) $xyz = m$

(7) $xy - z = m$

(8) $3xy + z = m$

(9) $y(x + z) = m$

(10) $\frac{z-y}{x} = m$

(11) $x^2 = y$

(12) $x^3 = m$

(13) $\sqrt{x} = m$

(14) $\sqrt{x} = m + n$

(15) $\sqrt{x + y} = m$

(16) $\sqrt[3]{x} = m$

(17) $\sqrt{x} + n = m$

(18) $(x + y)^2 = p$

(19) $\sqrt{\frac{x}{y}} = t$

(20)* $2\sqrt{\frac{x}{y}} = tm$

(21) $x + y = mx + n$

(22) $tx - m = nx + y$

(23) $xyz + m = n - rx$

(24) $y = \frac{m+x}{n+x}$

(25) $t = \frac{xm+p}{x-4}$

(26) $\frac{y+m}{x-n} = t$

(27)* $y = \frac{\sqrt{x}+m}{\sqrt{x}-n}$

(28)* $y = \frac{x^2+r}{x^2+p}$

(29)* $\sqrt[4]{x - m} = t$

(30)* $\sqrt[4]{x + m} = t + n$

(31)* The formula for the volume of a sphere is $V = \frac{4}{3}\pi r^3$. Show that $r = \sqrt[3]{\frac{3V}{4\pi}}$

(32)* The volume of a cone is given as $V = \frac{1}{3}\pi r^2 h$. Make r the subject of the formula.

(33)** By considering the difference of two squares, make x the subject of $m = (x + A)(x - A)$

(34)*** By completing the square, make x the subject of the equation $x^2 - 4x = n$

(35)*** The cosine rule is given by $a^2 = b^2 + c^2 - 2bc\cos A$ Make A the subject

(36)*** Given that $M = 2x^{\frac{1}{2}}$ and $N = 4x^{\frac{1}{3}}$, express M in terms of N.

(37)*** Make x the subject of $x^{\frac{3}{4}}y = mx^{\frac{2}{5}}$

(38)*** By using logarithms, make x the subject of $m^x = n$