Re-arranging formula

Mana Maths

Te reo Māori terms

whārite
equation
Open in Te Aka

taurangi
variable
Open in Te Aka

kīanga
expression
Open in Te Aka

whakaoti
solve
Open in Te Aka

Re-arranging formula — Foundation

1. The formula for distance is $D = S \times T$. Make T the subject.

2. The formula for perimeter of a rectangle is $P = 2L + 2W$. Make L the subject.

3. Given $y = x + 5$, re-arrange the formula to make x the subject.

4. The formula for area of a rectangle is $A = L \times W$. Make W the subject.

5. The formula for speed is $S = \frac{D}{T}$. Make D the subject.

6. Given $C = 2\pi r$, make r the subject.

7. The formula for the area of a triangle is $A = \frac{1}{2}bh$. Make b the subject.

8. Given $F = ma$, make m the subject.

9. The formula for converting Celsius to Fahrenheit is $F = \frac{9}{5}C + 32$. Make C the subject.

10. Given $V = IR$, make I the subject.

11. The formula for density is $D = \frac{M}{V}$. Make M the subject.

12. Given $E = mc^2$, make m the subject.

13. The formula for simple interest is $I = PRT$. Make P the subject.

14. Given $A = \pi r^2$, make r the subject.

15. The formula for the volume of a cylinder is $V = \pi r^2 h$. Make h the subject.

Re-arranging formula — Proficient

1. Given $y = mx + c$, make x the subject.

2. The formula for the surface area of a sphere is $A = 4\pi r^2$. Make r the subject.

3. Given $v = u + at$, make a the subject.

4. The formula for kinetic energy is $E_k = \frac{1}{2}mv^2$. Make v the subject.

5. Given $P = \frac{F}{A}$, make F the subject.

6. The formula for the volume of a cone is $V = \frac{1}{3}\pi r^2 h$. Make h the subject.

7. Given $s = ut + \frac{1}{2}at^2$, make u the subject.

8. The formula for pressure in a fluid is $P = h\rho g$. Make ρ the subject.

9. Given $T = 2\pi\sqrt{\frac{l}{g}}$, make l the subject.

10. The formula for electrical power is $P = I^2R$. Make I the subject.

11. Given $A = \frac{1}{2}(a + b)h$, make b the subject.

12. The formula for gravitational potential energy is $E_p = mgh$. Make h the subject.

13. Given $S = \frac{a}{1 - r}$, make r the subject.

14. The formula for the period of a pendulum is $T = 2\pi\sqrt{\frac{l}{g}}$. Make g the subject.

15. Given $F = \frac{Gm_1m_2}{r^2}$, make r the subject.

Re-arranging formula — Excellence

1. Given $y = \dfrac{ax + b}{cx + d}$, make x the subject.

2. The formula for the sum of an infinite geometric series is $S = \dfrac{a}{1 - r}$. Make r the subject.

3. Given $T = 2\pi\sqrt{\dfrac{m}{k}}$, make k the subject.

4. The formula for the focal length of a lens is $\dfrac{1}{f} = \dfrac{1}{u} + \dfrac{1}{v}$. Make v the subject.

5. Given $A = P\left(1 + \dfrac{r}{100}\right)^n$, make r the subject.

6. The formula for the combined resistance of two resistors in parallel is $\dfrac{1}{R} = \dfrac{1}{R_1} + \dfrac{1}{R_2}$. Make R_1 the subject.

7. Given $x = \dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$, make b the subject.

8. The formula for the escape velocity is $v = \sqrt{\dfrac{2GM}{r}}$. Make r the subject.

9. Given $y = \dfrac{1}{2}gt^2$, make t the subject.

10. The formula for the magnification of a lens is $M = \dfrac{v}{u}$. Make u the subject.

11. Given $PV = nRT$, make T the subject.

12. The formula for the period of a mass-spring system is $T = 2\pi\sqrt{\dfrac{m}{k}}$. Make m the subject.

13. Given $E = \dfrac{hc}{\lambda}$, make λ the subject.

14. The formula for the thin lens equation is $\dfrac{1}{f} = \dfrac{1}{u} + \dfrac{1}{v}$. Make u the subject.

15. Given $S = \dfrac{n}{2}(2a + (n-1)d$ make d the subject.