

Rearranging Trigonometric Equations

17 February 2026

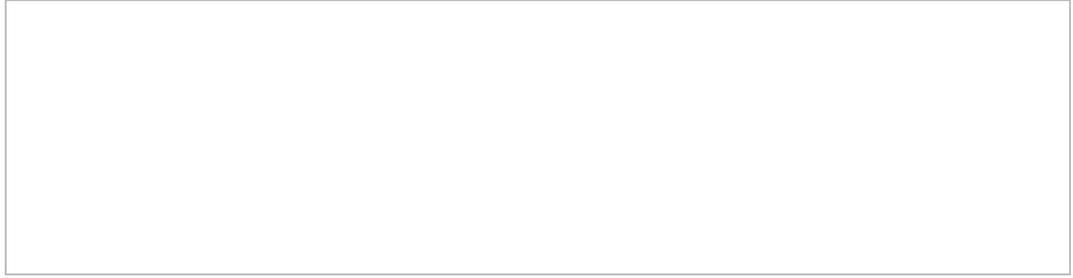
Exercise 1

For all equations below, make r the subject of the equation:

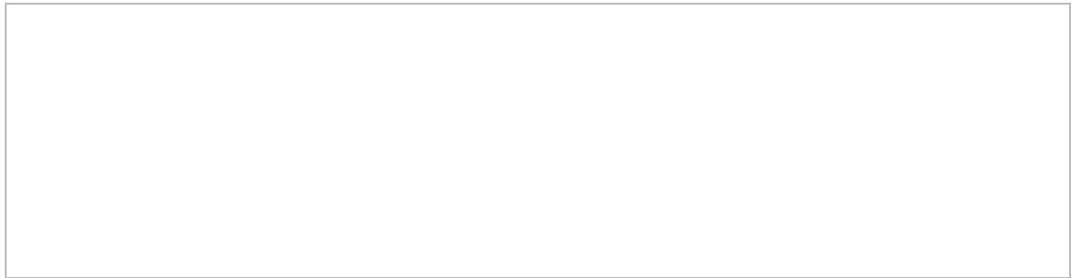
a) $\text{Tan } A = \frac{d}{r}$

b) $\text{Cos } G = \frac{p}{r}$

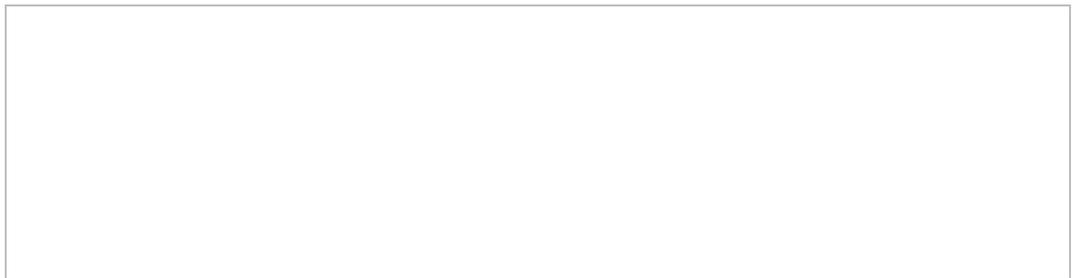
c) $\sin U = \frac{r}{h}$



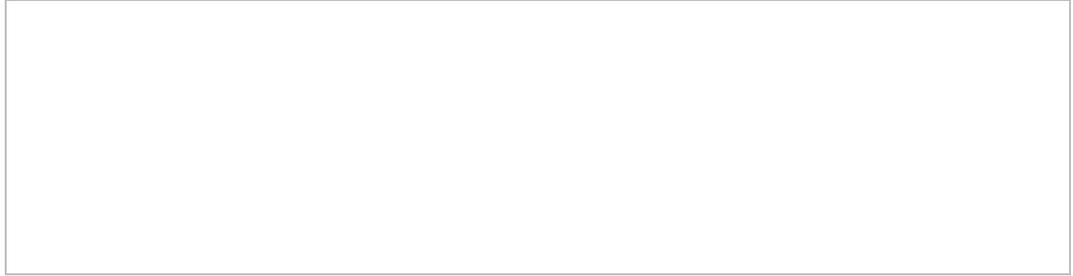
d) $\tan H = \frac{r}{(y+1)}$



e) $\cos (F + B) = \frac{(d-2)}{r}$



$$f) \sin(G + K) = \frac{(e+h)}{r}$$



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Exercise 2

- a) By eliminating the variable s , using the provided equations, show that the formula for j is given by:

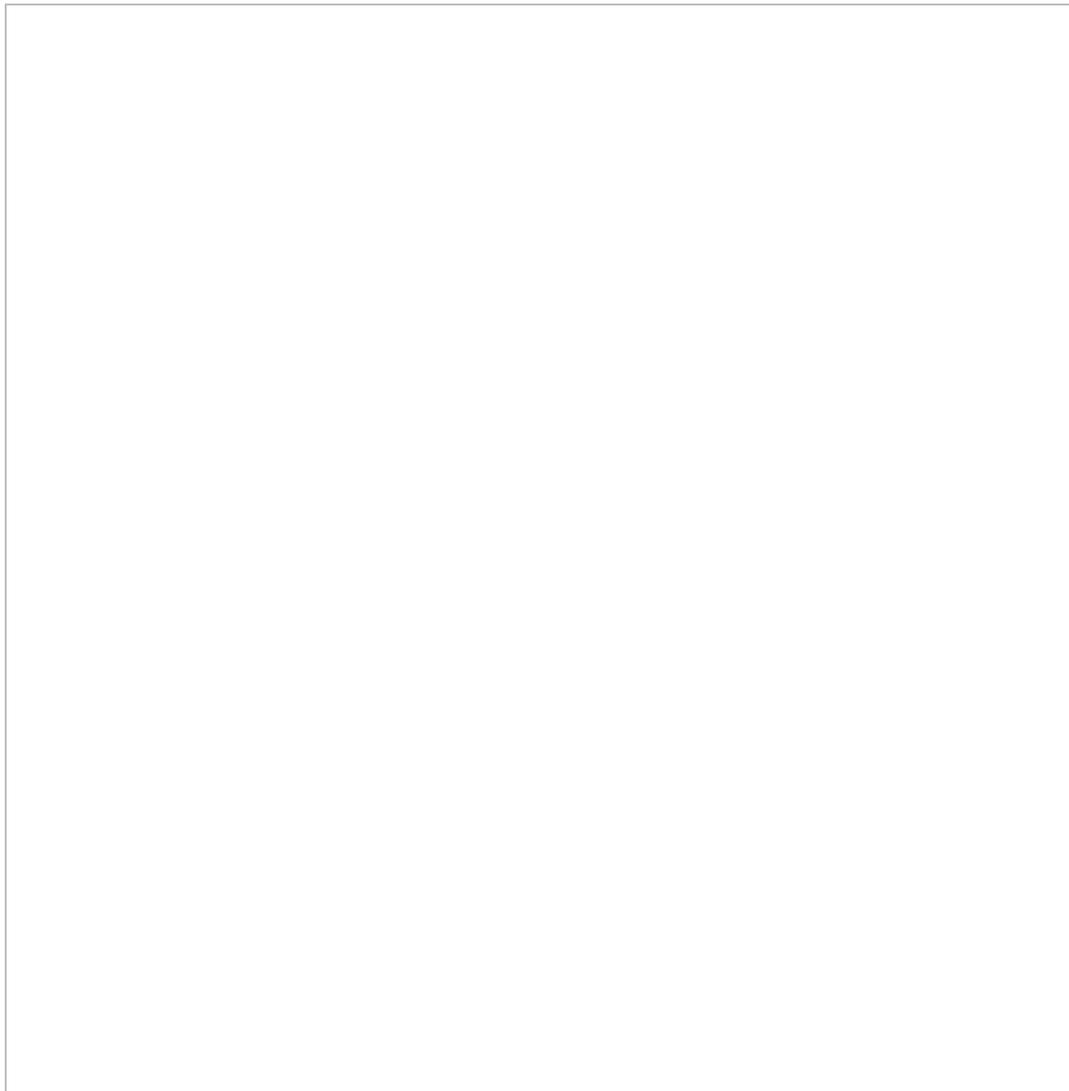
$$j = k\left(\frac{\text{Tan } C}{\text{Tan } D} - 1\right)$$

Equation One

$$s = \frac{k}{\text{Tan } D}$$

Equation Two

$$s = \frac{j + k}{\text{Tan } C}$$



b)

i) Make z the subject of $a = z\sin(2G) + b$

ii) Make z the subject of $z\cos(3H) - b = 0$

iii) Using your answers to i) and ii), show that

$$a = b\left(\frac{\sin 2G}{\cos 3H} + 1\right)$$