Learning Enhancement Team

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STUDENT SUPPORT SERVICE

Worksheet: Rearranging Equations

Transposing (or rearranging) equations is one of the most common mathematical skills you will use as a scientist. You can also solve equations with a single variable using identical methods. This worksheet offer a chance to practise these skills.

Model answers to this sheet

Rearranging Equations study guide

1. Solve the following equations (try rearranging the equations for x):

a. $5x = 8$

b. $5x + 3 = 8$

c. $\frac{x}{5} = 8$

d. $5x - 3 = -8$

e. $5 - x = 8$

f. $\frac{5x + 3}{2} = 8$

g. $\frac{5 - x}{4} = 8$

h. $\frac{1}{5x + 2} = 8$

i. $5 - x = 8x$

j. $\frac{1}{5 - x} = \frac{1}{8x}$

2. Transpose the following equations for the variable stated:

a. $C = \pi d$ for d

b. $c_1 v_1 = c_2 v_2$ for v_2

c. $F = BQv$ for Q

d. $Q = U + pV$ for p

e. $\frac{V_p}{V_s} = \frac{N_p}{N_s}$ for N_s

f. $\theta = \frac{\lambda}{d}$ for d

g. $s = \frac{(u+v)t}{2}$ for u

h. $KE = \frac{1}{2}mv^2$ for v

i. $s = ut + \frac{1}{2}at^2$ for a

j. $\frac{pV}{T} = nR$ for T

k. $a^2 = b^2 + c^2$ for b

l. $\sin\theta = \frac{a}{b}$ for θ