



9:Rearranging equations

### LEARNING OUTCOMES

**Level 4**  
 > Write equations in symbol form

**Level 5**  
 > Change the subject of an equation

**Level 6**  
 > Calculate values after rearranging an equation

### MATCH THE SYMBOL!

• d	• m	• kilometres	• metres
• v	• s	• Velocity	• distance
• km	• kg	• kilograms	• Joules
• L	• g	• Litres	• grams
• F	• J	• Force	• kilograms

### EQUATIONS ARE BEAUTIFUL

• They **transform** our

**words** into **mathematics**

so that we can accurately **describe** and **predict** things

### CAN YOU CHANGE THESE INTO SYMBOLS?

• Pressure = Force ÷ Area	• <b>Key</b> Pressure - P Force - F Area - A Velocity - v Distance - d Time - t Voltage - V Current - I Resistance - R
• Velocity = Distance ÷ Time	
• Voltage = Current x Resistance	

a)  $y = x + a$

b)  $y = 2x - a$

**4** c)  $y = 2x + 7$

d)  $y = 7 - 2x$

e)  $y = \frac{x}{5}$

**5** f)  $2w = 3x$

g)  $ax - y = 2y$

h)  $ax - y + z = b$

1 a)  $x = y - a$  a = 2

b)  $x = \frac{y+a}{2}$  b = 10

c)  $x = \frac{y-7}{2}$  w = 9

d)  $x = \frac{7-y}{2}$  y = 5

e)  $x = 5y$  z = 3.5

f)  $x = \frac{2w}{3}$

g)  $x = \frac{3y}{a}$

h)  $x = \frac{b+y-z}{a}$

Calculate x,  
using the  
numbers on  
the right!

**6**

a)  $y = mx + c, (c)$

b)  $y = mx + c, (m)$

c)  $v^2 = u^2 + 2as, (s)$

d)  $2s = 2ut + at^2, (a)$

e)  $v^2 = u^2 + 2as, (a)$

f)  $y = a^2x + b^2, (x)$

In each of the following cases make  $x$  the subject:

a)  $2(x + a) = y$     b)  $\frac{x}{a} = \frac{y+z}{b}$     c)  $\frac{a(x+y)}{b} = c$

## SUMMARY OF PHYSMATH

- You've covered **nine** lessons which should have given you the basic **skills** you need to do **Physics!**
- Don't worry if you don't feel like you **understand** everything yet, you'll be **practising** these skills all the way through Year 7.

"Sucking at something is the first step to becoming sorta good at something"

-Jake The Dog



## SUMMARY OF PHYSMATH

- Without looking back in your book, write a list of every skill you can remember learning so far this term
- Now share your list with your partner
  - What skills did they write down that you didn't?
  - Why didn't you write those ones down?
- Go back through your book and find any skills that that you forgot to write
- What skills do you need to work on most?

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