

# Rearranging equations

## How to ...

Make p the subject of the formula

$$y = 3p^2 - 4$$

$$(+4) \quad y + 4 = 3p^2 - 4 + 4$$

$$y + 4 = 3p^2$$

$$(\div 3) \quad \frac{y+4}{3} = \frac{3p^2}{3}$$

$$p^2 = \frac{y+4}{3}$$

$$(\sqrt{\quad}) \quad \sqrt{p^2} = \sqrt{\frac{y+4}{3}}$$

$$p = \sqrt{\frac{y+4}{3}}$$

(3)

if I wanted to be entirely correct I would have written  $y = \pm \sqrt{\frac{y+4}{3}}$

Remember: whatever you do to one side of an equation you must do to the other too ...

I'm going to swap sides here ...

Now have a go yourself ...

### SORTED IT

a) Make L the subject

$$(i) \quad L - 2 = h - t \qquad (ii) \quad L - 4t = h + 2t$$

b) Make x the subject

$$(i) \quad x + 2y = p^2 - q \qquad (ii) \quad x + 3y = 2y - 3$$

### NAILED IT

a) Make K the subject of these equations

$$(i) \quad B = 5K \qquad (ii) \quad B = 10K \qquad (iii) \quad B = 9K$$

$$(iv) \quad B = \frac{K}{2} \qquad (v) \quad B = \frac{5K}{2}$$

b) Make x the subject of these equations

$$(i) \quad y = 3x + 9 \qquad (ii) \quad y = 2x + 4$$

$$(iii) \quad y = 5x - 15 \qquad (iv) \quad y = 7x - 21$$

### MASTERED IT

Make x the subject of these equations

$$(i) \quad y = \frac{3}{2}x + 4 \qquad (ii) \quad y = \frac{3}{5}x + 15$$

$$(iii) \quad y = \frac{3}{4}x - 12 \qquad (iv) \quad y = \frac{7}{2}x - 14$$

Want a challenge? Make x the subject ..

$$(i) \quad y = x^2 \qquad (ii) \quad y = 4x^2 \qquad (iii) \quad y = x^2 + 5$$

## Exam Questions

Q1. Make x the subject of the following

$$5(x - 3) = y(4 - 3x)$$

Q2. Make x the subject of the following

$$T = \frac{x + 2}{2}$$

## Ready to be marked ?

### Checklist



Answer checked

Working out shown



### Keywords

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### Things to remember ...

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### What went well ...

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Teacher comment ..