

Maths

# **Change the subject of a formula with squares and square roots**

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# Rearranging formula involving squares & roots

1. Make  $x$  the subject in each of the following.

a)  $y = x^2$

b)  $d = \sqrt{x}$

c)  $y = x^2 + 5$

d)  $r = \sqrt{x} + 7$

e)  $s = \sqrt{x + 9}$

f)  $t = \frac{\sqrt{x}}{5}$

2. Make  $t$  the subject of the formula when  $X = 3(t^2 - 5)$

3. Jean is attempting to make  $g$  the subject of the formula  $j = \sqrt{g - 5}$   
Here is her answer.

$$g = j^2 - 25$$

What mistake has she made?

What is the correct answer?



# Answers



# Rearranging formula involving squares & roots

1. Make x the subject in each of the following.

a)  $y = x^2$        $x = \sqrt{y}$

b)  $d = \sqrt{x}$        $x = d^2$

c)  $y = x^2 + 5$        $x = \sqrt{y - 5}$

d)  $r = \sqrt{x} + 7$        $x = (r - 7)^2$

e)  $s = \sqrt{x + 9}$        $x = s^2 - 9$

f)  $t = \frac{\sqrt{x}}{5}$        $x = 25t^2$

2. Make t the subject of the formula when  $X = 3(t^2 - 5)$

$$t = \sqrt{\frac{X}{3} + 5}$$

3. Jean is attempting to make g the subject of the formula  $j = \sqrt{g - 5}$   
Here is her answer.

$$g = j^2 - 25$$

What mistake has she made?

She did not need to square -5

What is the correct answer?

$$g = j^2 + 5$$

