



$$3^{(x-7)^2} = 1$$

$$x = ?$$



$$3^{(x-7)^2} = 3$$

$$x = ?$$



$$3^{(x-2)^2} = 5$$

$$x = ?$$



----- T R O I S Q U E S T I O N S -----

$$3^{(x - 7)^2} = 1$$

$$x = ?$$

$$3^{(x - 7)^2} = 3$$

$$x = ?$$

$$3^{(x - 2)^2} = 5$$

$$x = ?$$

----- R É P O N S E S -----

----- question #1 -----

$$3^{(x - 7)^2} = 1$$

$$\Rightarrow (x - 7)^2 = 0$$

$$(x - 7)(x - 7) = 0$$

$$x - 7 = 0$$

$$\begin{array}{c} \cdot\text{-----}\cdot \\ | \ x = 7 \ | \\ \cdot\text{-----}\cdot \end{array}$$

----- question #2 -----

$$3^{(x - 7)^2} = 3$$

$$\Rightarrow (x - 7)^2 = 1$$

$$x^2 - 14x + 49 = 1$$

$$x^2 - 14x + 48 = 0$$

$$\Delta = (-14)^2 - 4 \cdot 1 \cdot 48 = 4$$

$$\sqrt{\Delta} = \sqrt{4} = 2$$

$$x_1 = (-(-14) + 2)/2 \cdot 1 = 8$$

$$x_2 = (-(-14) - 2)/2 \cdot 1 = 6$$

.....
| x = 8 |
.....
| x = 6 |
.....

----- question #3 -----

$$3^{(x - 2)^2} = 5$$

$$3^{(x^2 - 4x + 4)} = 5$$

$$3^{(x^2 - 4x)} * 3^4 = 5$$

$$3^{(x^2 - 4x)} * 81 = 5$$

$$3^{(x^2 - 4x)} = 5/81$$

$$\log(3^{(x^2 - 4x)}) = \log(5/81)$$

$$(x^2 - 4x) \cdot \log(3) = \log(5/81)$$

$$(x^2 - 4x) = \log(5/81)/\log(3)$$

$$(x^2 - 4x) = \log(5/81)/\log(3)$$

$$(x^2 - 4x) = -2,53502$$

$$x^2 - 4x + 2,53502 = 0$$

$$\Delta = (-4)^2 - 4 \cdot 1 \cdot 2,53502 = 5,85992$$

$$x_1 = (-(-4) + \sqrt{5,85992})/2 \cdot 1 = 3,21036$$

$$x_2 = (-(-4) - \sqrt{5,85992})/2 \cdot 1 = 0,78963$$

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| x = 3,21 |

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| x = 0,79 |

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