

Check-Up...

$$81 \cdot 27^{-2(x-1)} = \frac{3}{\sqrt[3]{9}}$$

$-6x+6+4$

$$(3^4) \cdot (3^3)^{-2x+2} = 3$$
$$(3^4) (3^{-6x+6}) = \frac{(3^2)^{1/3}}{3^{2/3}}$$
$$3^{-6x+10} = 3^{1/3}$$

$$\therefore -6x+10 = \frac{1}{3}$$

$$-18x+30 = 1$$

$$-18x = -29$$

$$x = \frac{29}{18}$$

This is a little different...hmmm...any ideas??

Solve the following...

$$2^{2x} - 33(2^x) + 32 = 0$$

$$(2^x)^2 - 33(2^x) + 32 = 0$$

Let $m = 2^x$

$$\rightarrow m^2 - 33m + 32 = 0$$

$$\frac{32^{3x-4}}{16^{-x+3}} = 4(8^{5x-1})$$

$$\left(+\frac{31}{4}\right)$$

$$\frac{(2^5)^{3x-4}}{(2^4)^{-x+3}} = (2^2)(2^3)^{5x-1}$$

$$\frac{2^{15x-20}}{2^{-4x+12}} = (2^2)(2^{15x-3})$$

$$2^{19x-32} = 2^{15x-1}$$

$$\therefore 19x-32=15x-1$$

$$\frac{4x}{4} = \frac{31}{4}$$

$$x = \frac{31}{4}$$

Solve the following...

$$125(5^{2x}) - 30(5^x) + 1 = 0$$

$$125(5^x)^2 - 30(5^x) + 1 = 0$$

$$\text{Let } \underline{m = 5^x}$$

$$125(m)^2 - 30m + 1 = 0$$

$$125m^2 - 25m - 5m + 1 = 0$$

$$25m(5m-1) - 1(5m-1) = 0$$

$$(5m-1)(25m-1) = 0$$

Re-Sub.

$$m = \frac{1}{5} \quad \text{OR} \quad m = \frac{1}{25}$$

$$m = 5^x$$

$$5^x = \frac{1}{5}$$

$$x = -1$$

$$5^x = \frac{1}{25}$$

$$5^x = 5^{-2}$$

$$x = -2$$

Homework...



Worksheet - Solving Exponential Equations.doc

7, 8, 10, 11, 12

Attachments

Worksheet - Solving Exponential Equations.doc