

Exponential Rule of Equality

$$\text{If } b^x = b^y, \text{ then } x = y$$

As long as we have the same bases equal to one another....
...we can set the exponents equal to one another and solve.

Solve the following exponential equations

$$9^x = 27^{x-1}$$

$$25^{2x} = 125^{3x+5}$$

As long as we have the same bases equal to one another....
...we can set the exponents equal to one another and solve.

Solve the following exponential equations

$$\left(\frac{1}{8}\right)^x = 16^{4-x}$$

$$\left(\frac{1}{9}\right)^{3x} = 81^{x-5}$$

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