

Exponential Equations WS

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Solve each equation.

1) $\frac{3^{-3k-3}}{3^{-2k}} = 3^{2k}$

2) $16^{2n} \cdot \left(\frac{1}{64}\right)^{3n} = \left(\frac{1}{64}\right)^n$

3) $\left(\frac{1}{243}\right)^{-2m-2} = 9^{3m}$

4) $9 \cdot 3^{2a} = 3^{2a}$

5) $\frac{\frac{1}{64}}{\left(\frac{1}{16}\right)^b} = 64$

6) $\frac{1}{5} \cdot 25^{-3n-3} = 125$

$$7) 4^3 \cdot 16^{3x+3} = 64$$

$$8) \frac{\left(\frac{1}{25}\right)^{2v}}{25^v} = \frac{1}{5}$$

$$9) 16^{-2x} \cdot 64^{2x+3} = 1$$

$$10) 25^{2r} \cdot 25^{2-2r} = \frac{1}{5}$$

$$11) \frac{1}{6} \cdot \left(\frac{1}{6}\right)^n = 6^3$$

$$12) 8 \cdot 32^{-2x} = 64$$

$$13) \left(\frac{1}{6}\right)^{-3k} \cdot 216^{3k} = 36$$

$$14) \left(\frac{1}{64}\right)^{-2a} \cdot 64^{a-3} = 16^{-2a}$$