

Exponential Equations WS #2

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Solve each equation. SHOW ALL WORK. NO CREDIT FOR ANSWERS WITHOUT WORK!!

1) $3^{-3m} = 3^{-2m-2}$

2) $4^{2x} = \frac{1}{16}$

3) $2^{-2v} \cdot 2^{3v} = 8$

4) $4^{2n} \cdot 4^{-n-3} = 4^{-3n-2}$

5) $32^{2b-3} = 64$

6) $\left(\frac{1}{6}\right)^{-v-3} \cdot 36^{3v+3} = \left(\frac{1}{6}\right)^v$

$$7) 8 \cdot \left(\frac{1}{2}\right)^{-3x-2} = 32^{-3x}$$

$$8) 9 \cdot 9^{-n+3} = 27^{2n-2}$$

$$9) 3^{3a} \cdot 3^5 = 81$$

$$10) 3^{-3p} \cdot 3^{-2p} = 3^2$$

$$11) 36^{-n} \cdot \frac{1}{6} = \left(\frac{1}{36}\right)^{-2n}$$

$$12) \left(\frac{1}{125}\right)^{-3a} \cdot 125^{3a} = 25^a$$

$$13) \left(\frac{1}{216}\right)^{3x} = \frac{1}{6}$$

$$14) \left(\frac{1}{2}\right)^{-3p-1} = 8$$

$$15) 16^{-r} \cdot 64 = \left(\frac{1}{4}\right)^{3r}$$

$$16) 25^{-2x} = \left(\frac{1}{625}\right)^{2x+1}$$

$$17) 64^{m-1} \cdot 16^m = 4^3$$

$$18) 25^{-2x} \cdot 25^{-3x} = \frac{1}{5}$$

$$19) 243^{2n+2} \cdot 9^{-n-2} = 81^{-3n}$$

$$20) 64^{-2v} \cdot 16 = \frac{1}{4}$$