PRECAL Name_____

Exponential Equations WS #2

Date_____ Period____

Solve each equation.

1) $216^{-3p} \cdot 36^{2p} = 36$

2) $\left(\frac{1}{125}\right)^{2x} \cdot 25^{-x+2} = 5^3$

3) $\frac{216^{1-3x}}{36^{-2x-2}} = 216$

4) $\frac{16^{-a}}{16^{2a}} = 64^{-a}$

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

6) $\left(\frac{1}{7}\right)^{m} \cdot 343^{-3m} = 1$

7) $\left(\frac{1}{3}\right)^{-3x} \cdot 9 = \left(\frac{1}{27}\right)^{-x}$

8) $243^{x+1} \cdot \frac{1}{81} = 243^{x-3}$

9) $\frac{\left(\frac{1}{8}\right)^{-2n}}{\left(\frac{1}{8}\right)^{-n-3}} = 16^{-n-3}$

10) $\dfrac{16^{-3p}}{\dfrac{1}{64}} = 4^2$

11) $\dfrac{81^{-2k}}{81} = 27$

12) $\dfrac{64^{n+3}}{64^{-3n}} = 16^{3n-2}$

13) $3^3 \cdot 81^{-2x} = \dfrac{1}{27}$

14) $\left(\dfrac{1}{2}\right)^{b-2} \cdot 64^{3b+2} = \dfrac{1}{8}$

15) $9 \cdot 81^{-2x} = 27^{-2x}$

16) $\left(\frac{1}{243}\right)^{a+2} \cdot \left(\frac{1}{81}\right)^{-a} = 243$

17) $\left(\frac{1}{32}\right)^{3x-2} \cdot 64^{3x} = 16^{-3x}$

18) $36^{2b} \cdot 216^{-b+3} = 216^{b}$