

Solving Exponential Equations Using Prior Knowledge

Solve each equation.

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

2) $\frac{125^n}{625^{2n}} = \frac{1}{625}$

3) $\left(\frac{1}{4}\right)^{2b-3} \cdot 64 = 16$

4) $36^{2x+2} \cdot 216^{3-3x} = 36$

5) $8^{-2k} \cdot 32^{2k-3} = 64$

6) $216^{3n} \cdot \frac{1}{36} = 1$

7) $\frac{9^{-2v}}{27^{2v}} = 9^{-3v-1}$

8) $\frac{343^{3n}}{49^{2n}} = 49^{-2n}$

Answers to Solving Exponential Equations Using Prior Knowledge

1) $\left\{-\frac{3}{4}\right\}$

2) $\left\{\frac{4}{5}\right\}$

3) $\{2\}$

4) $\left\{\frac{11}{5}\right\}$

5) $\left\{\frac{21}{4}\right\}$

6) $\left\{\frac{2}{9}\right\}$

7) $\left\{\frac{1}{2}\right\}$

8) $\{0\}$