

Algebra 2 // Topic 5 "Review Worksheet A"

$$\begin{aligned} \boxed{1} \left(\frac{-2}{5}\right)^{-2} &= \\ &= \frac{(-2)^{-2}}{5^{-2}} = \frac{5^2}{(-2)^2} \\ &= \boxed{\frac{25}{4}} \end{aligned}$$

$$\begin{aligned} \boxed{2} \left(\frac{2}{3}\right)^{-3} &= \\ &= \frac{2^{-3}}{3^{-3}} = \frac{3^3}{2^3} \\ &= \boxed{\frac{27}{8}} \end{aligned}$$

$$\begin{aligned} \boxed{3} 49^{-1/2} &= \\ &= \frac{1}{49^{1/2}} = \frac{1}{\sqrt{49}} \\ &= \boxed{\frac{1}{7}} \end{aligned}$$

$$\begin{aligned} \boxed{4} 64^{-1/3} &= \\ &= \frac{1}{64^{1/3}} = \frac{1}{\sqrt[3]{64}} \\ &= \boxed{\frac{1}{4}} \end{aligned}$$

$$\begin{aligned} \boxed{5} 8^{4/3} &= \\ &= \sqrt[3]{8^4} = 2^4 \\ &= \boxed{16} \end{aligned}$$

$$\begin{aligned} \boxed{6} 25^{3/2} &= \\ &= \sqrt{25^3} = 5^3 \\ &= \boxed{125} \end{aligned}$$

$$\begin{aligned} \boxed{7} \frac{9^{1/3}}{9^{-1/2}} &= \\ &= 9^{1/3 - (-1/2)} = 9^{1/3 + 1/2} \\ &= 9^{2/6 + 3/6} = \boxed{9^{5/6}} \end{aligned}$$

$$\begin{aligned} \boxed{8} \frac{5^{2/3}}{5^{1/4}} &= \\ &= 5^{2/3 - 1/4} = 5^{8/12 - 3/12} \\ &= \boxed{5^{5/12}} \end{aligned}$$

$$\begin{aligned} \boxed{9} 2^{1/4} \cdot 2^{4/3} &= \\ &= 2^{1/4 + 4/3} = 2^{3/12 + 16/12} \\ &= \boxed{2^{19/12}} \end{aligned}$$

$$\begin{aligned} \boxed{10} 10^{4/5} \cdot 10^{-1/2} &= \\ &= 10^{4/5 + (-1/2)} = 10^{8/10 - 5/10} \\ &= \boxed{10^{3/10}} \end{aligned}$$

$$\begin{aligned} \boxed{11} (3^{1/7} \cdot 3^{3/7})^7 &= \\ &= 3^1 \cdot 3^3 = 3^4 \\ &= \boxed{81} \end{aligned}$$

$$\begin{aligned} \boxed{12} (8^{7/4} \cdot 8^{-2/4})^9 &= \\ &= 8^7 \cdot 8^{-2} \\ &= \boxed{8^5} \end{aligned}$$

$$\boxed{13} \frac{1}{n^{-3}} = \boxed{n^3}$$

$$\boxed{14} \frac{1}{x^{-4}} = \boxed{x^4}$$

$$\begin{aligned} \boxed{15} (-27)^{2/3} &= \\ &= \sqrt[3]{(-27)^2} = (-3)^2 \\ &= \boxed{9} \end{aligned}$$

$$\begin{aligned} \boxed{16} (-8)^{2/3} &= \\ &= \sqrt[3]{(-8)^2} = (-2)^2 \\ &= \boxed{4} \end{aligned}$$

$$\begin{aligned} \boxed{17} (15^{1/2})^{3/4} &= \\ &= \boxed{15^{3/8}} \end{aligned}$$

$$\begin{aligned} \boxed{18} (20^{2/3})^{3/8} &= \\ &= 20^{6/24} = \boxed{20^{1/4}} \end{aligned}$$

$$\begin{aligned} \boxed{19} \sqrt{40} &= \\ &= \sqrt{4} \sqrt{10} \\ &= \boxed{2\sqrt{10}} \end{aligned}$$

$$\begin{aligned} \boxed{20} 5\sqrt{24} &= \\ &= 5\sqrt{4} \sqrt{6} \\ &= 5 \cdot 2 \sqrt{6} \\ &= \boxed{10\sqrt{6}} \end{aligned}$$