

H. ALGEBRA 2
Quiz Review

NAME: _____

$$\textcircled{1} \quad (27^{\frac{2}{3}})^{\frac{3}{4}} = 27^{\frac{1}{2}} = \textcircled{3}$$

$$\textcircled{2} \quad \left(\frac{4a^{3x}}{3b^{2y}}\right)^3 \cdot \left(\frac{b^{5y-2}}{8a^{2x+1}}\right) = \frac{4^3 a^{9x} b^{5y-2}}{3^3 b^{6y} 8a^{2x+1}} = \frac{64 a^{7x-1} b^{-y-2}}{27 \cdot 8}$$

$$= \frac{8a^{7x-1} b^{-y-2}}{27}$$

$$\textcircled{3} \quad -4^{-\frac{5}{2}} = - (2)^{-5} = \textcircled{-\frac{1}{32}}$$

$$\textcircled{4} \quad 81^{4x+2} = \left(\frac{1}{3}\right)^{x-5} \quad \left(3^4\right)^{4x+2} = \left(3^{-1}\right)^{x-5}$$

$$16x+8 = -x+5$$

$$17x = -3$$

$$x = \textcircled{-\frac{3}{17}}$$

$$\textcircled{5} \quad 2(3x+4)^4 - 2 = 160$$

$$2(3x+4)^4 = 162$$

$$(3x+4)^4 = 81$$

$$3x+4 = \pm\sqrt[4]{81}$$

$$3x = -4 \pm 3$$

$$3x = -1 \quad 3x = -7$$

$$x = \textcircled{-\frac{1}{3}} \quad x = \textcircled{-\frac{7}{3}}$$

$$\textcircled{6} \quad \text{Simplify } \sqrt{1028} \sqrt{1025}$$

$$25 \cdot 41 = \textcircled{5\sqrt{41}}$$

$$\textcircled{7} \quad \sqrt[3]{54a^2b^3c^4}$$

$$= \textcircled{3bc \sqrt[3]{2a^2c}}$$