

Angeles City Science High School

Mathematics 9

Name: Paul Gerald D. Pare

Section: 9 - Adenine

$$1. c^{\frac{2}{9}} \left( c^{\frac{4}{3}} \right) = \frac{2+12}{9} = \frac{14}{9}$$

$$\boxed{c^{\frac{14}{9}}}$$

$$2. \left( x^{\frac{2}{5}} y^{\frac{4}{10}} \right)^{-5}$$

$$= x^{\frac{2}{5}(-5)} y^{\frac{4}{10}(-5)}$$

$$= x^{-2} y^{-2}$$

$$= x^{-2} y^{-2}$$

$$= \boxed{\frac{1}{x^2 y^2}}$$

$$3. \frac{a^{\frac{1}{2}}}{a^{\frac{3}{10}}} \rightarrow \frac{5-3}{10} = \frac{2}{10} = \frac{1}{5}$$

$$= \boxed{a^{\frac{1}{5}}}$$

$$4. \left( \frac{y^{\frac{2}{3}}}{y^{\frac{1}{2}}} \right)^2$$

$$= \frac{y^{\frac{2}{3}(2)}}{y^{\frac{1}{2}(2)}}$$

$$= \frac{y^{\frac{4}{3}}}{y} \rightarrow \frac{4}{3} - 1 \rightarrow \frac{4-3}{3} = \frac{1}{3}$$

$$= \boxed{y^{\frac{1}{3}}}$$

$$5. (x^{12} y^{10})^{-\frac{1}{2}}$$

$$x^{\frac{12}{2}(-\frac{1}{2})} y^{\frac{10}{2}(-\frac{1}{2})}$$

$$= x^{-6} y^{-5}$$

$$= \frac{1}{x^6 y^5}$$



## Assessment Part

$$3. \frac{32^{\frac{4}{5}}}{32^{\frac{3}{5}}} = \frac{2^{\cancel{8}(\frac{4}{\cancel{5}})}}{2^{\cancel{8}(\frac{3}{\cancel{5}})}} = \frac{2^4}{2^3} = \frac{16}{8} = \boxed{2}$$

$$4. 81^{\frac{1}{8}} (81^{\frac{1}{8}})$$

$$\begin{aligned} &= 3^{\cancel{4}(\frac{1}{\cancel{8}})} \\ &= 3^{\frac{1}{2}} \left( 3^{\cancel{4}(\frac{1}{\cancel{8}})} \right) \\ &= 3^{\frac{1}{2}} \left( 3^{\frac{1}{2}} \right) \rightarrow \frac{1+1}{2} = \frac{2}{2} \\ &= \boxed{3} \end{aligned}$$

~~$= \boxed{9}$~~

$$5. \left( \frac{4^{\frac{1}{2}}}{4^{\frac{3}{4}}} \right)^4$$

$$= \left( \frac{2^{\cancel{2}(\frac{1}{2})}}{2^{\cancel{2}(\frac{3}{4})}} \right)^4$$

$$= \left( \frac{2}{2^{\frac{3}{2}}} \right)^4$$

$$= \frac{2^4}{2^{\cancel{2}(\frac{3}{2})}(\cancel{2}^4)}$$

$$= \frac{2^4}{2^6}$$

$$= \frac{16}{64} = \boxed{\frac{1}{4}}$$

$$6. \left[ 9^{\frac{1}{4}} (16^{-\frac{1}{4}}) \right]^2$$

$$= \left[ 3^{\cancel{2}(\frac{1}{2})} (2^{\cancel{4}(-\frac{1}{4})}) \right]^2$$

$$= \left[ 3^{\frac{1}{2}} (2^{-1}) \right]^2$$

$$= \left[ 3^{\frac{1}{2}(\cancel{2})} (2^{-1}(\cancel{2})) \right]$$

$$= \left[ 3 (2^{-2}) \right]$$

$$= \frac{3}{2^{\cancel{2}2}} = \boxed{\frac{3}{4}}$$

7.

$$10. \frac{9^{\frac{5}{7}}}{9^{\frac{3}{2}}} \rightarrow \frac{5}{7} - \frac{3}{2} \rightarrow \frac{10-21}{14} = \frac{-11}{14}$$

$$= \boxed{\frac{1}{9^{\frac{11}{14}}}}$$