Angeles City Science High School

Mathematics 9

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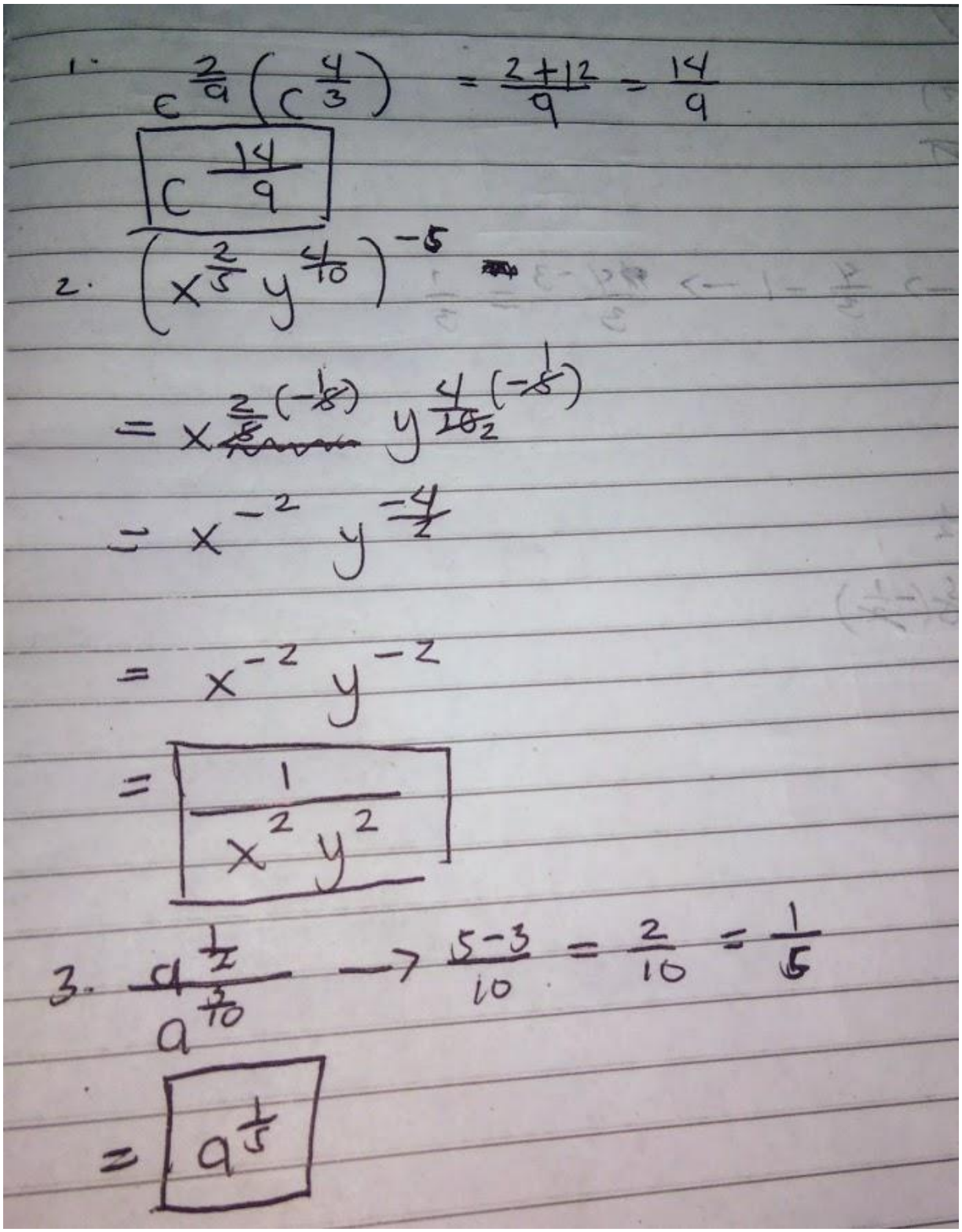

4. $\left(\frac{y^{\frac{2}{3}}}{y^{\frac{1}{2}}}\right)^2$

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

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

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

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

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

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

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

Assessment Part

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

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

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

$= 3^{\frac{1}{2}}\left(3^{4\left(\frac{1}{8}\right)}\right)$

$= 3^{\frac{1}{2}}\left(3^{\frac{1}{2}}\right) \rightarrow \frac{1+1}{2} = \frac{2}{2}$

$= \boxed{3}$

$= \boxed{1}$

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

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

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

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

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

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

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

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

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

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

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

$= \frac{3}{2^{\text{and}2}} = \boxed{\frac{3}{4}}$

7.

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

$= \frac{-11}{14}$

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