Review # 2

1. $(0.25)^{1/2}$

$\sqrt{0.25}$

0.5

2. $(-27)^{1/3}$

$\sqrt[3]{-27}$

-3

3. $\left(\frac{256}{625}\right)^{1/4}$

$\sqrt[4]{\frac{256}{625}}$

$\frac{4}{5}$

4. $(-243)^{0.6}$

$(-243)^{6/10}$

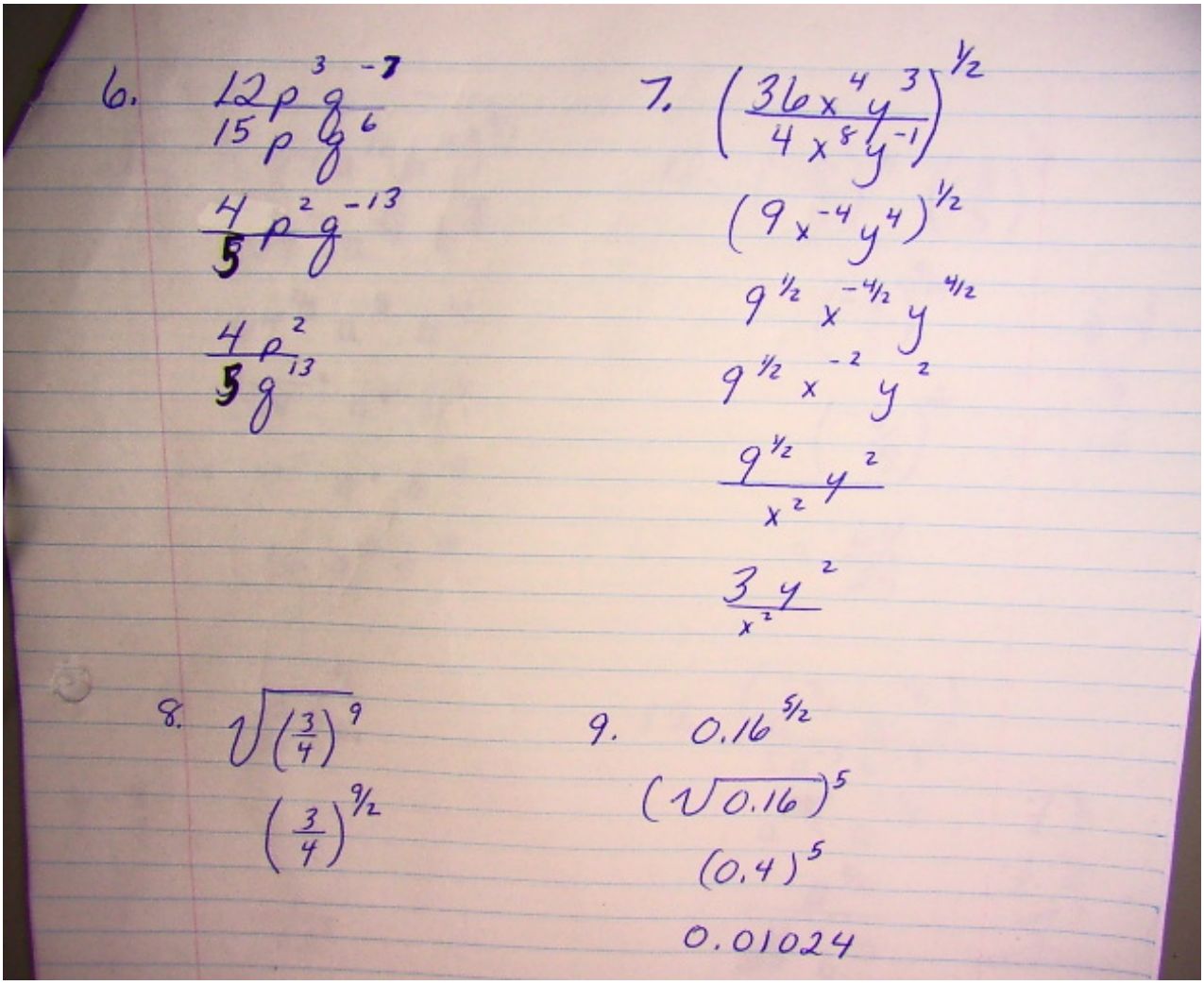
$(-243)^{3/5}$

$\sqrt[5]{-243}^{3}$

$(-3)^3$

-27

5. ☺



6. $\frac{12p^3q^{-7}}{15pq^6}$

$\frac{4p^2q^{-13}}{5}$

$\frac{4p^2}{5q^{13}}$

7. $\left(\frac{36x^4y^3}{4x^8y^{-1}}\right)^{1/2}$

$(9x^{-4}y^4)^{1/2}$

$9^{1/2}x^{-4/2}y^{4/2}$

$9^{1/2}x^{-2}y^2$

$\frac{9^{1/2}y^2}{x^2}$

$\frac{3y^2}{x^2}$

8. $\sqrt{\left(\frac{3}{4}\right)^9}$

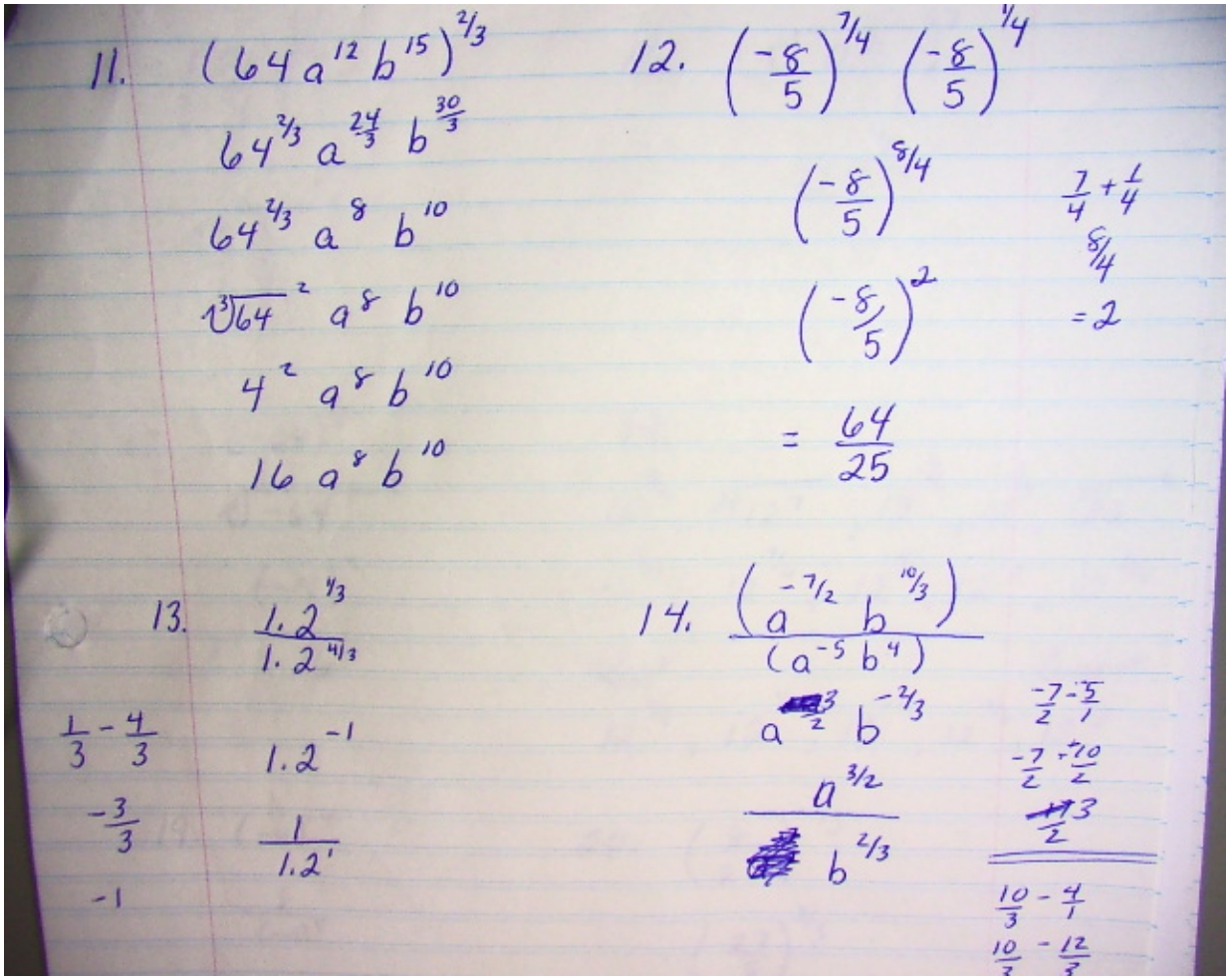
$\left(\frac{3}{4}\right)^{9/2}$

9. $0.16^{5/2}$

$(\sqrt{0.16})^5$

$(0.4)^5$

0.01024



11. $(64a^{12}b^{15})^{2/3}$

$64^{2/3} a^{\frac{24}{3}} b^{\frac{30}{3}}$

$64^{2/3} a^{8} b^{10}$

$(\sqrt[3]{64})^{2} a^{8} b^{10}$

$4^{2} a^{8} b^{10}$

$16 a^{8} b^{10}$

12. $\left(\frac{-8}{5}\right)^{7/4} \left(\frac{-8}{5}\right)^{1/4}$

$\left(\frac{-8}{5}\right)^{8/4}$

$\left(\frac{-8}{5}\right)^{2}$

$= \frac{64}{25}$

$\frac{7}{4} + \frac{1}{4}$

$\frac{8}{4}$

$= 2$

13. $\frac{1.2^{1/3}}{1.2^{4/3}}$

$\frac{1}{3} - \frac{4}{3}$

$-\frac{3}{3}$

-1

1.2^{-1}

$\frac{1}{1.2^{1}}$

14. $\frac{(a^{-7/2} b^{10/3})}{(a^{-5} b^{4})}$

$a^{\frac{3}{2}} b^{-2/3}$

$\frac{a^{3/2}}{b^{2/3}}$

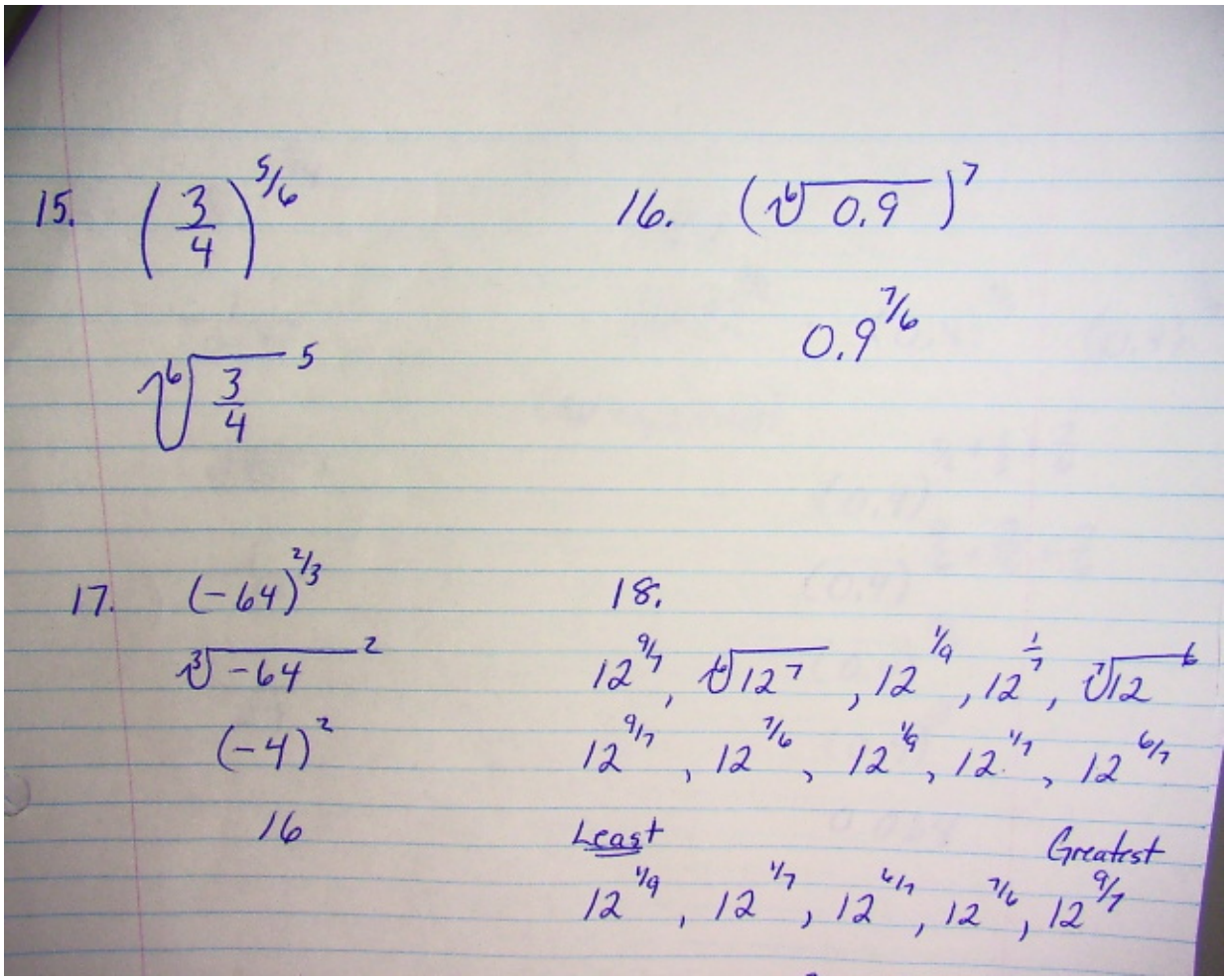
$-\frac{7}{2} - \frac{5}{1}$

$-\frac{7}{2} + \frac{10}{2}$

$\frac{3}{2}$

$\frac{10}{3} - \frac{4}{1}$

$\frac{10}{3} - \frac{12}{3}$



15. $\left(\frac{3}{4}\right)^{5/6}$

$\sqrt[6]{\frac{3}{4}^5}$

16. $\left(\sqrt[6]{0.9}\right)^7$

$0.9^{7/6}$

17. $(-64)^{2/3}$

$\sqrt[3]{-64}^2$

$(-4)^2$

16

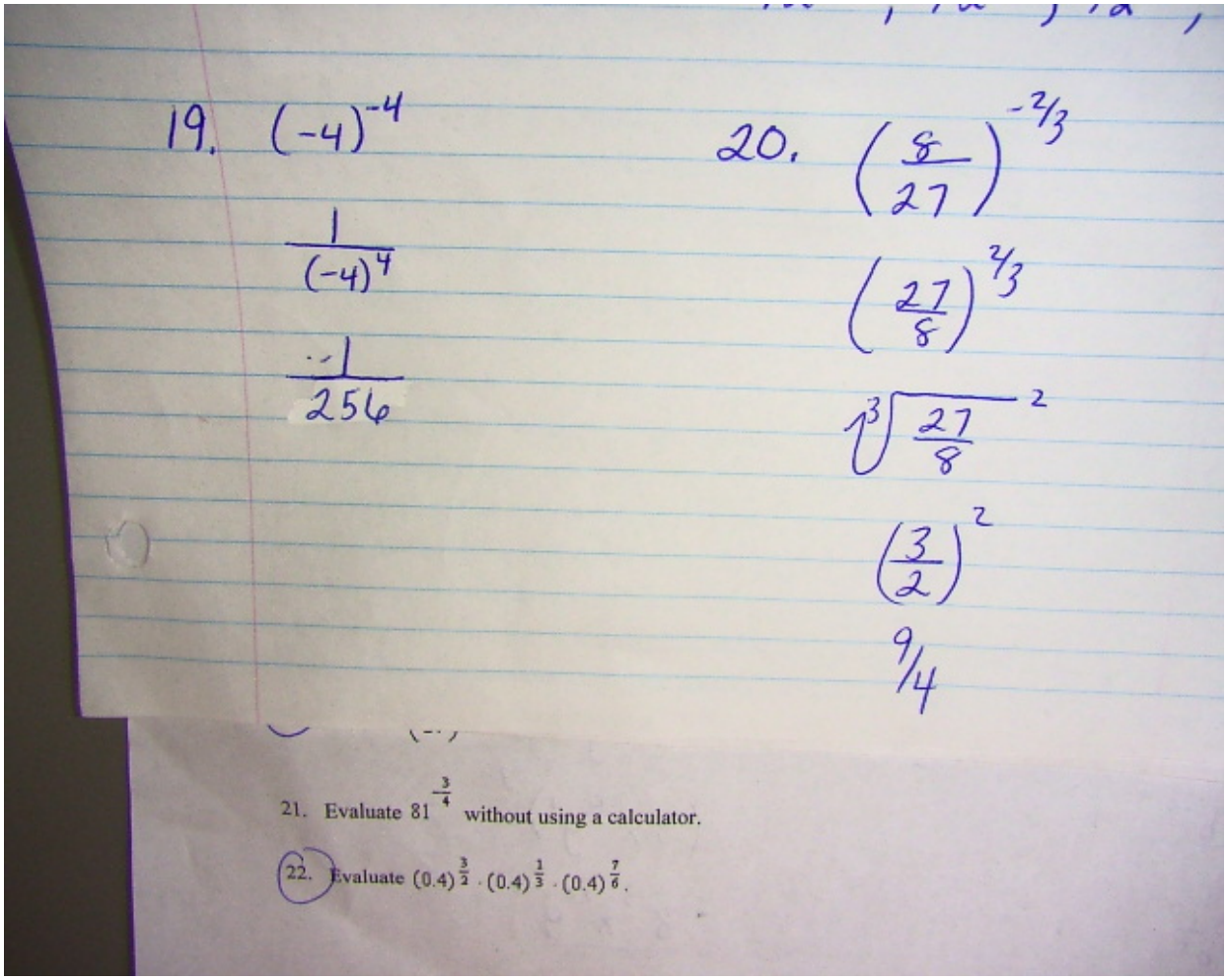
18.

$12^{9/7}, \sqrt[7]{12^7}, 12^{1/9}, 12^{\frac{1}{7}}, \sqrt[7]{12^6}$

$12^{9/7}, 12^{7/6}, 12^{1/9}, 12^{1/7}, 12^{6/7}$

Least Greatest

$12^{1/9}, 12^{1/7}, 12^{6/7}, 12^{7/6}, 12^{9/7}$



19. $(-4)^{-4}$

$\frac{1}{(-4)^4}$

$\frac{1}{256}$

20. $\left(\frac{8}{27}\right)^{-2/3}$

$\left(\frac{27}{8}\right)^{2/3}$

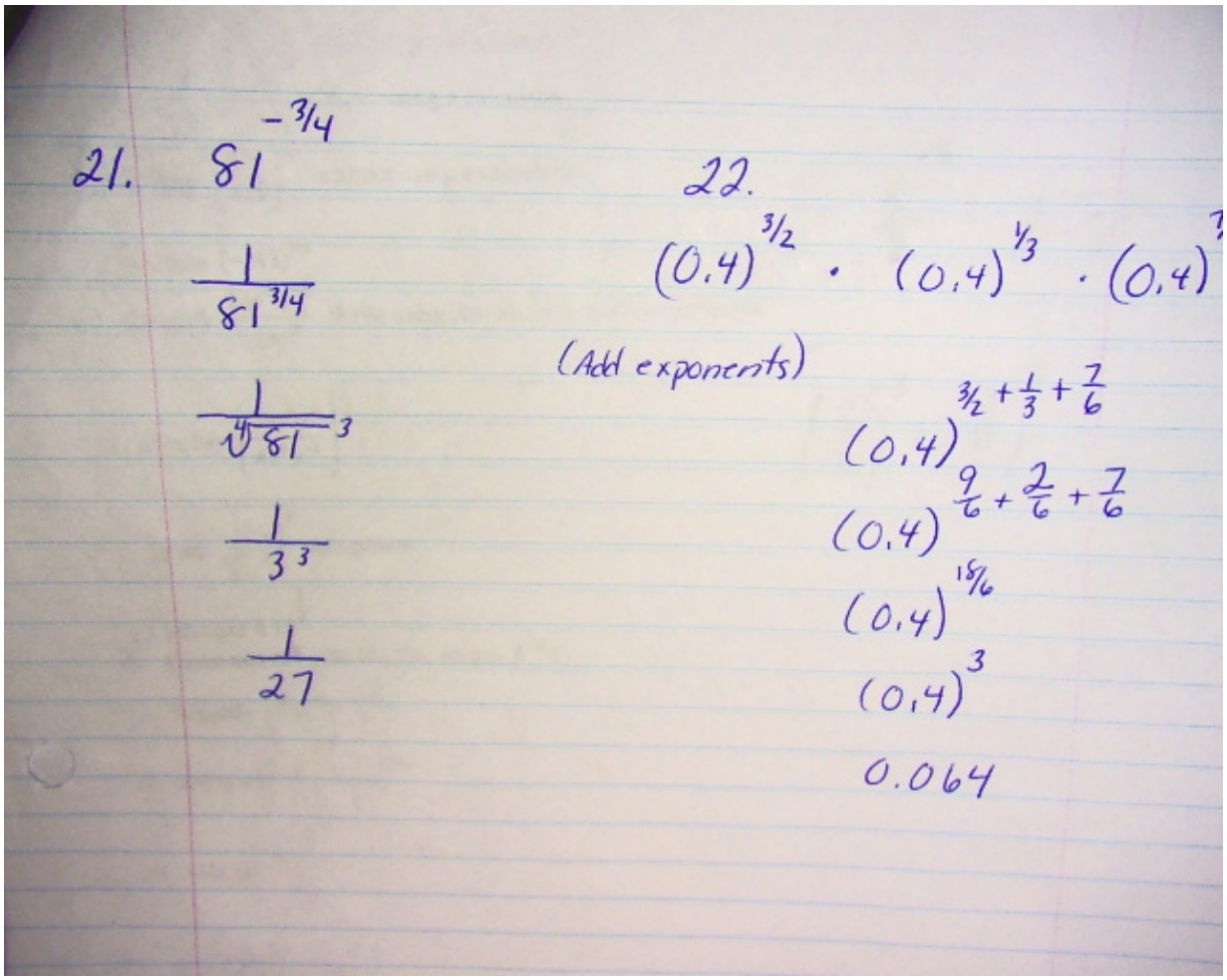
$\sqrt[3]{\frac{27}{8}}^{2}$

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

$9/4$

21. Evaluate $81^{-\frac{3}{4}}$ without using a calculator.

22. Evaluate $(0.4)^{\frac{3}{2}} \cdot (0.4)^{\frac{1}{3}} \cdot (0.4)^{\frac{7}{6}}$.



21. $81^{-3/4}$

$\frac{1}{81^{3/4}}$

$\frac{1}{(\sqrt[4]{81})^3}$

$\frac{1}{3^3}$

$\frac{1}{27}$

22. $(0.4)^{3/2} \cdot (0.4)^{1/3} \cdot (0.4)^{7/6}$

(Add exponents)

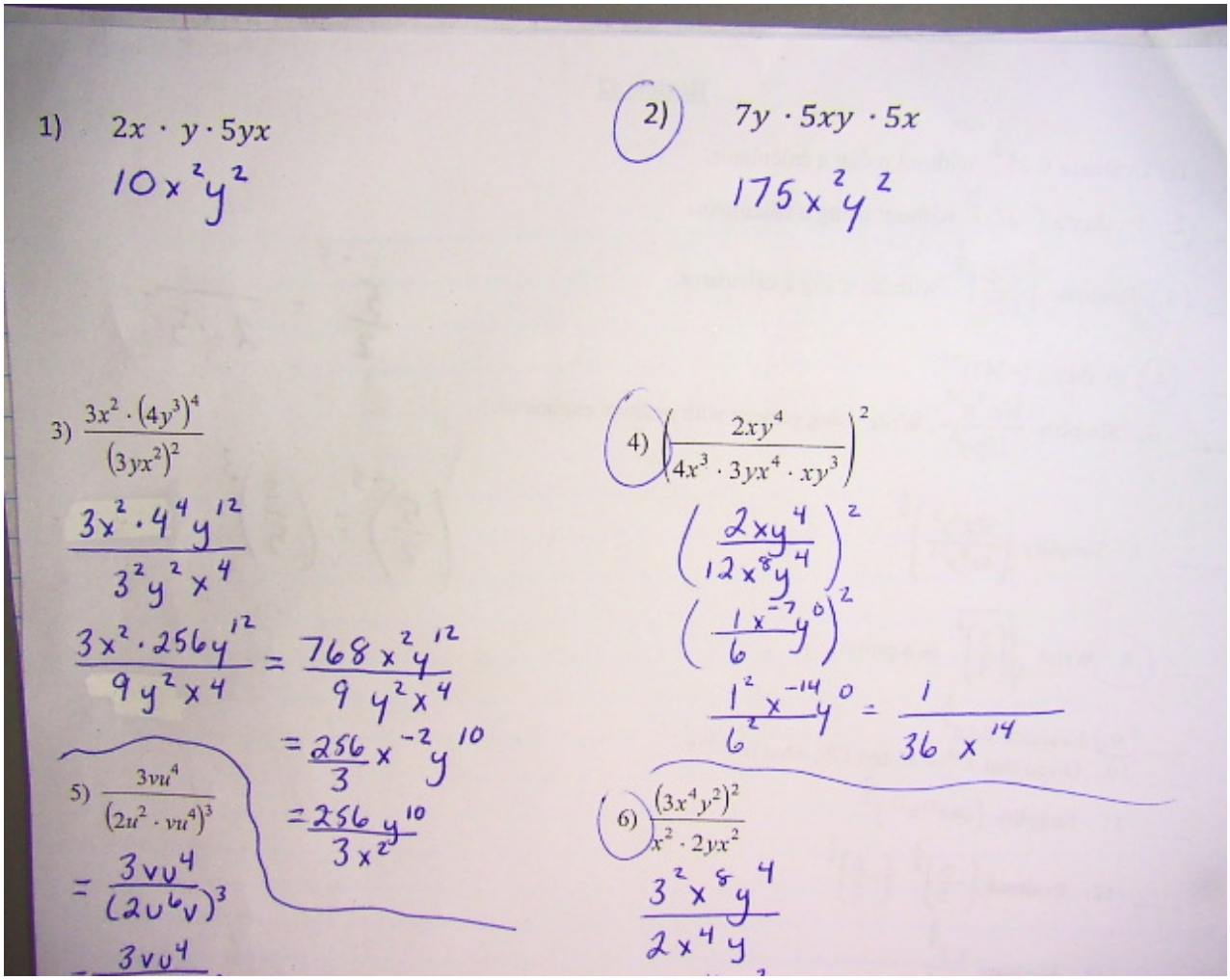
$(0.4)^{3/2+\frac{1}{3}+\frac{7}{6}}$

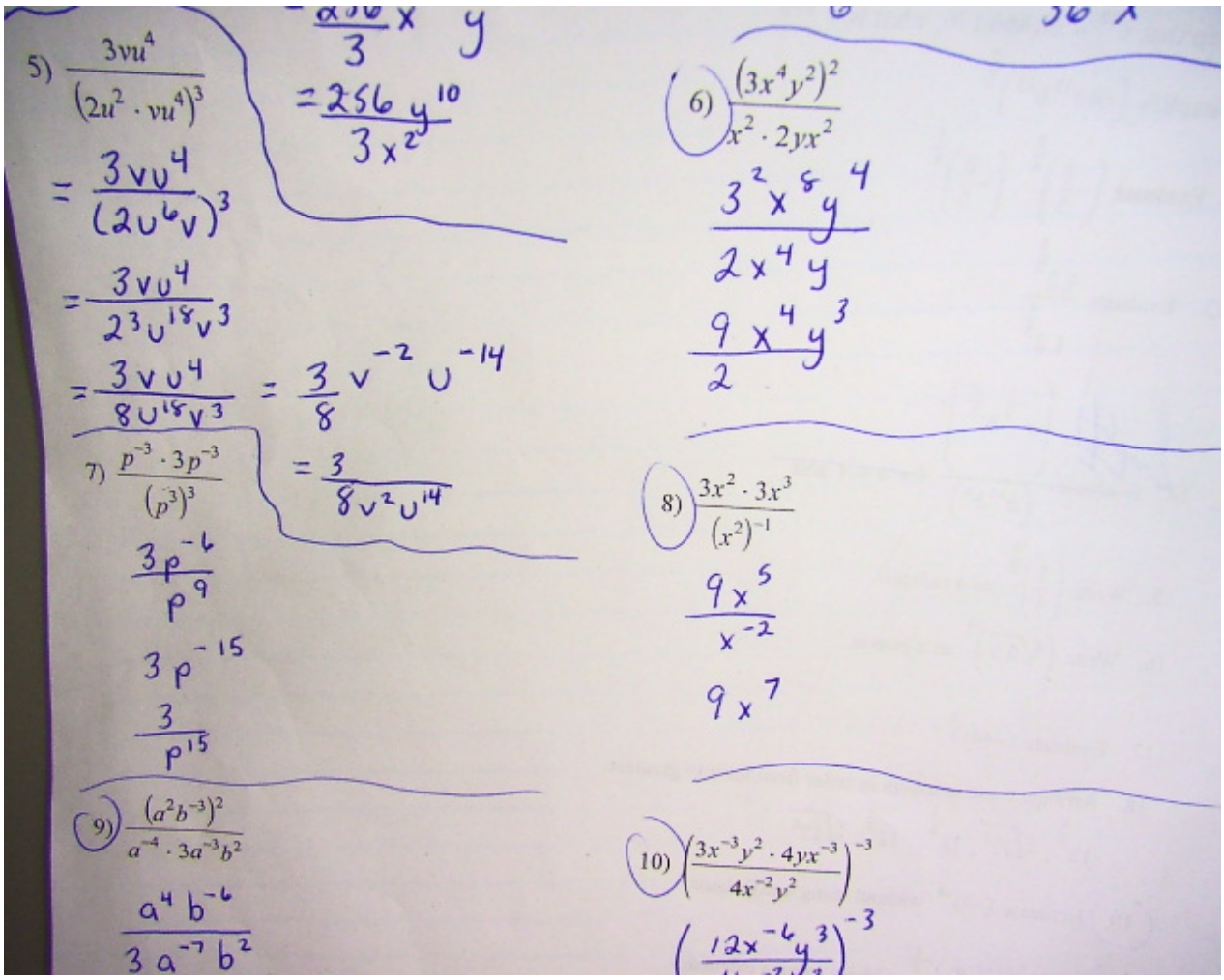
$(0.4)^{\frac{9}{6}+\frac{2}{6}+\frac{7}{6}}$

$(0.4)^{18/6}$

$(0.4)^3$

0.064


1) $2x \cdot y \cdot 5yx$
$10x^2y^2$
2) $7y \cdot 5xy \cdot 5x$
$175x^2y^2$
3) $\frac{3x^2 \cdot (4y^3)^4}{(3yx^2)^2}$
$\frac{3x^2 \cdot 4^4 y^{12}}{3^2 y^2 x^4}$
$\frac{3x^2 \cdot 256y^{12}}{9y^2x^4} = \frac{768x^2y^{12}}{9y^2x^4}$
$= \frac{256}{3} x^{-2} y^{10}$
$= \frac{256y^{10}}{3x^2}$
4) $\left(\frac{2xy^4}{4x^3 \cdot 3yx^4 \cdot xy^3}\right)^2$
$\left(\frac{2xy^4}{12x^8y^4}\right)^2$
$\left(\frac{1x^{-7}y^0}{6}\right)^2$
$\frac{1^2 x^{-14} y^0}{6^2} = \frac{1}{36x^{14}}$
5) $\frac{3vu^4}{(2u^2 \cdot vu^4)^3}$
$= \frac{3vu^4}{(2u^6v)^3}$
$= \frac{3vu^4}{}$
6) $\frac{(3x^4y^2)^2}{x^2 \cdot 2yx^2}$
$\frac{3^2 x^8 y^4}{2x^4 y}$



5) $\frac{3vu^4}{(2u^2 \cdot vu^4)^3}$

$= \frac{3vu^4}{(2u^6v)^3}$

$= \frac{3vu^4}{2^3u^{18}v^3}$

$= \frac{3vu^4}{8u^{18}v^3} = \frac{3}{8}v^{-2}u^{-14}$

$= \frac{3}{8v^2u^{14}}$

$\frac{256}{3}x \quad y$

$= \frac{256y^{10}}{3x^2}$

6) $\frac{(3x^4y^2)^2}{x^2 \cdot 2yx^2}$

$\frac{3^2x^8y^4}{2x^4y}$

$\frac{9x^4y^3}{2}$

7) $\frac{p^{-3} \cdot 3p^{-3}}{(p^3)^3}$

$\frac{3p^{-6}}{p^9}$

$3p^{-15}$

$\frac{3}{p^{15}}$

8) $\frac{3x^2 \cdot 3x^3}{(x^2)^{-1}}$

$\frac{9x^5}{x^{-2}}$

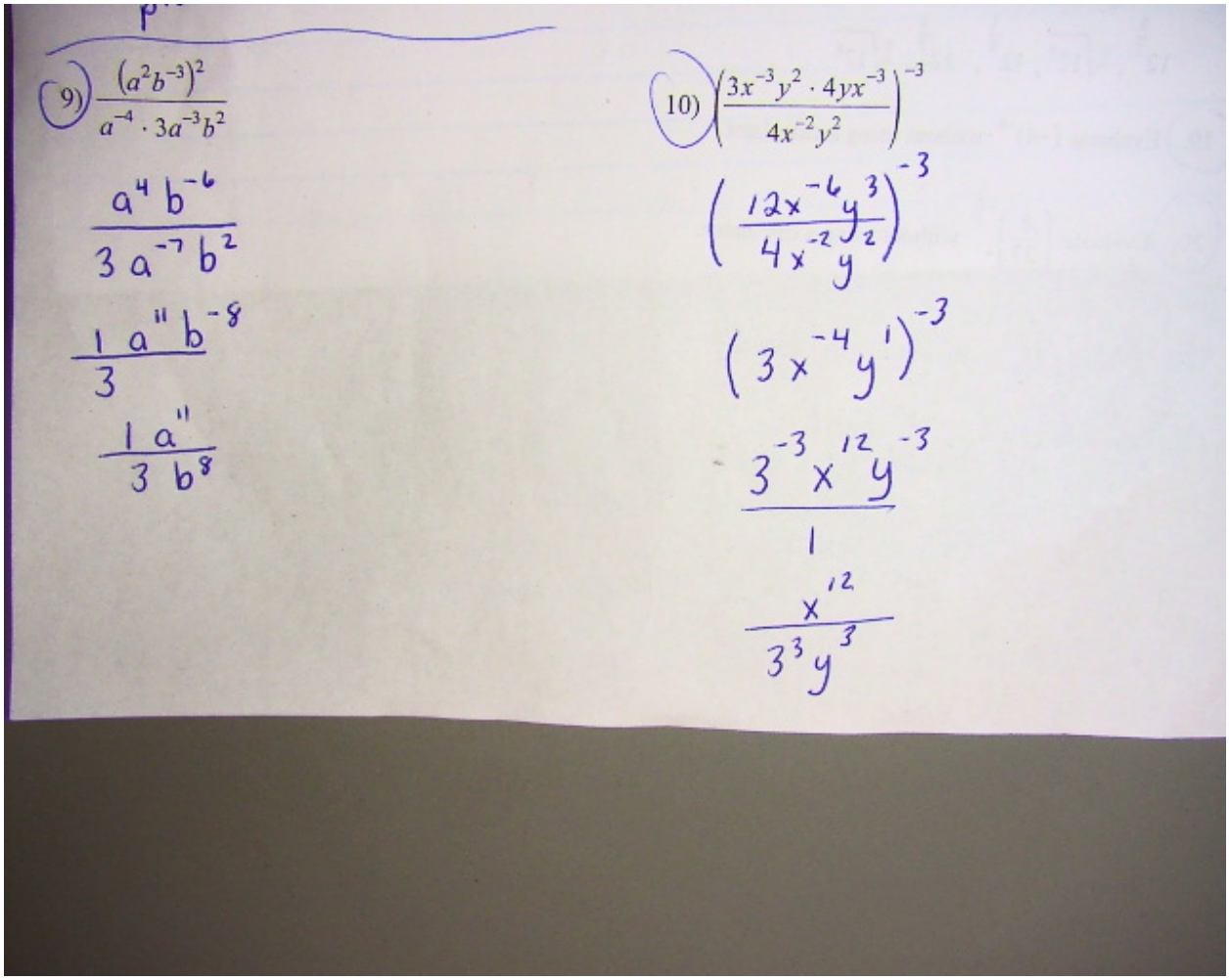
$9x^7$

9) $\frac{(a^2b^{-3})^2}{a^{-4} \cdot 3a^{-3}b^2}$

$\frac{a^4b^{-6}}{3a^{-7}b^2}$

10) $\left(\frac{3x^{-3}y^2 \cdot 4yx^{-3}}{4x^{-2}y^2}\right)^{-3}$

$\left(\frac{12x^{-6}y^3}{\quad}\right)^{-3}$



9) $\frac{(a^2b^{-3})^2}{a^{-4}\cdot 3a^{-3}b^2}$

$\frac{a^4 b^{-6}}{3a^{-7}b^2}$

$\frac{1a^{11}b^{-8}}{3}$

$\frac{1a^{11}}{3b^8}$

10) $\left(\frac{3x^{-3}y^2\cdot 4yx^{-3}}{4x^{-2}y^2}\right)^{-3}$

$\left(\frac{12x^{-6}y^3}{4x^{-2}y^2}\right)^{-3}$

$(3x^{-4}y^1)^{-3}$

$\frac{3^{-3}x^{12}y^{-3}}{1}$

$\frac{x^{12}}{3^3y^3}$