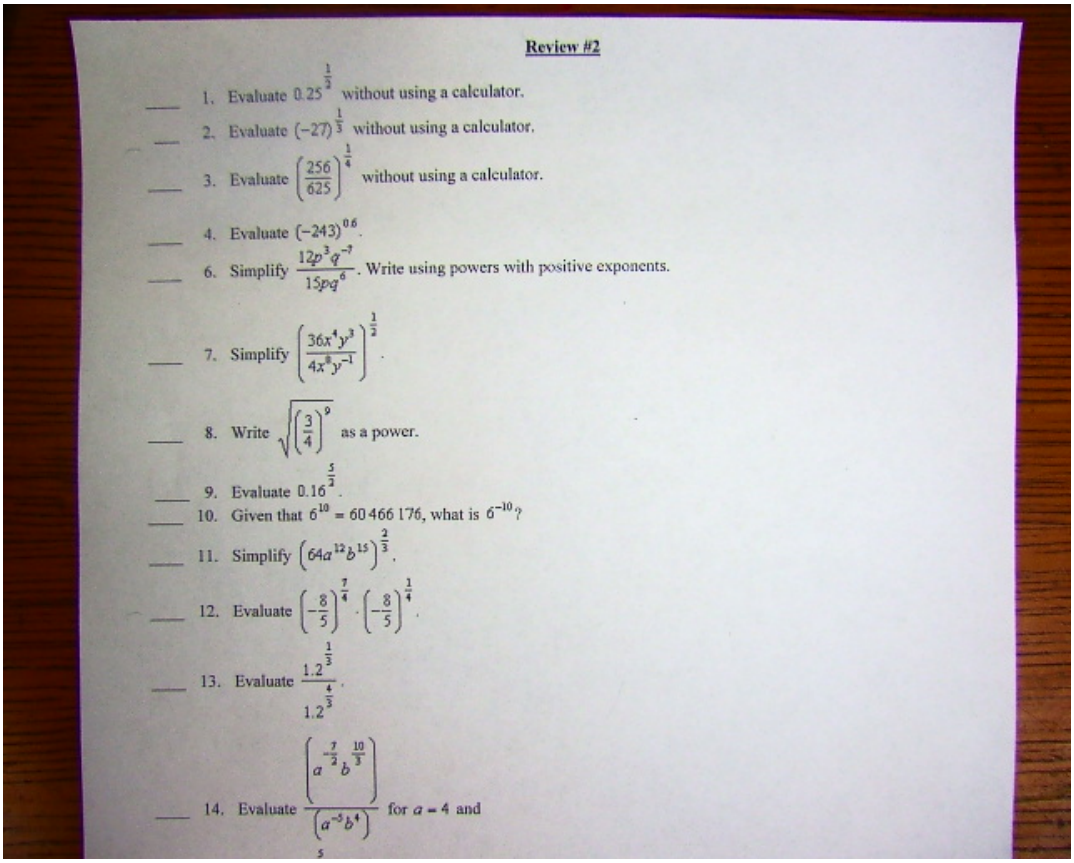


Review #2

___ 1. Evaluate $0.25^{\frac{1}{2}}$ without using a calculator.

___ 2. Evaluate $(-27)^{\frac{1}{3}}$ without using a calculator.

___ 3. Evaluate $\left(\frac{256}{625}\right)^{\frac{1}{4}}$ without using a calculator.

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

___ 6. Simplify $\frac{12p^3q^{-7}}{15pq^6}$. Write using powers with positive exponents.

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

___ 8. Write $\sqrt{\left(\frac{3}{4}\right)^9}$ as a power.

___ 9. Evaluate $0.16^{\frac{5}{2}}$.

___ 10. Given that $6^{10} = 60\,466\,176$, what is 6^{-10}?

___ 11. Simplify $\left(64a^{12}b^{15}\right)^{\frac{2}{3}}$.

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

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

___ 14. Evaluate $\frac{\left(a^{-\frac{7}{2}}b^{\frac{10}{3}}\right)}{\left(a^{-5}b^4\right)^5}$ for $a = 4$ and

___ 12. Evaluate $\left(-\frac{8}{5}\right)^{\frac{1}{3}} \cdot \left(-\frac{8}{5}\right)^{\frac{2}{3}}$.

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

___ 14. Evaluate $\frac{\left(a^{-\frac{7}{2}} b^{\frac{10}{3}}\right)}{\left(a^{-5} b^{4}\right)}$ for $a = 4$ and

15. Write $\left(\frac{3}{4}\right)^{\frac{5}{6}}$ as a radical.

16. Write $\left(\sqrt[5]{0.9}\right)^{7}$ as a power.

17. Evaluate $(-64)^{\frac{2}{3}}$.

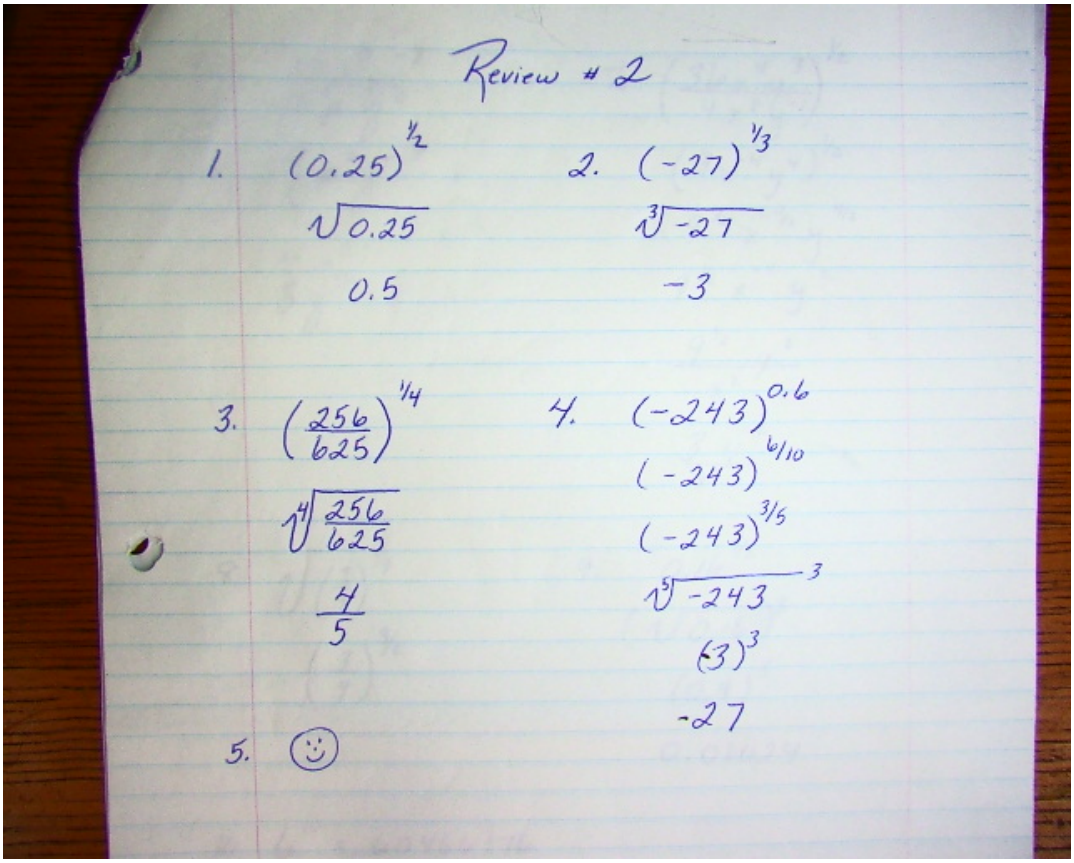
18. Arrange these numbers in order from least to greatest.
$12^{\frac{9}{7}}, \sqrt[6]{12^{7}}, 12^{\frac{1}{9}}, 12^{\frac{1}{7}}, \sqrt[7]{12^{6}}$

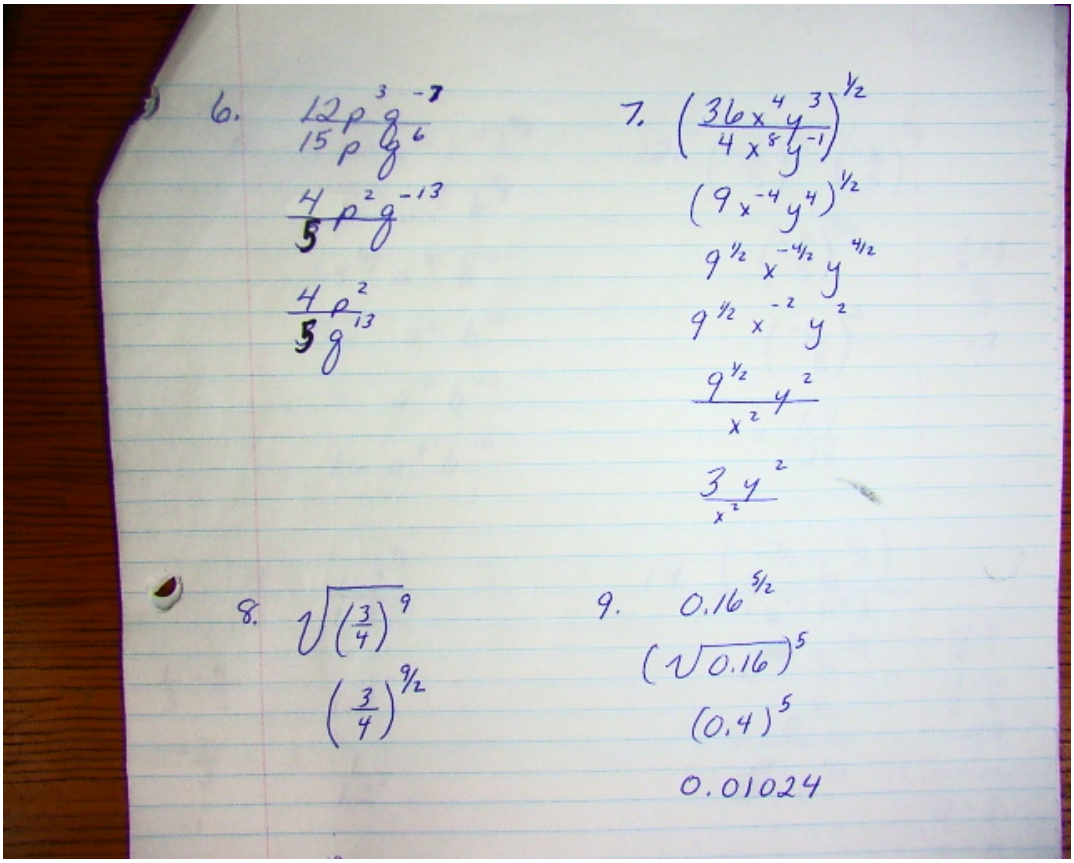
19. Evaluate $(-4)^{-4}$ without using a calculator.

20. Evaluate $\left(\frac{8}{27}\right)^{-\frac{2}{3}}$ without using a calculator.

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

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


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

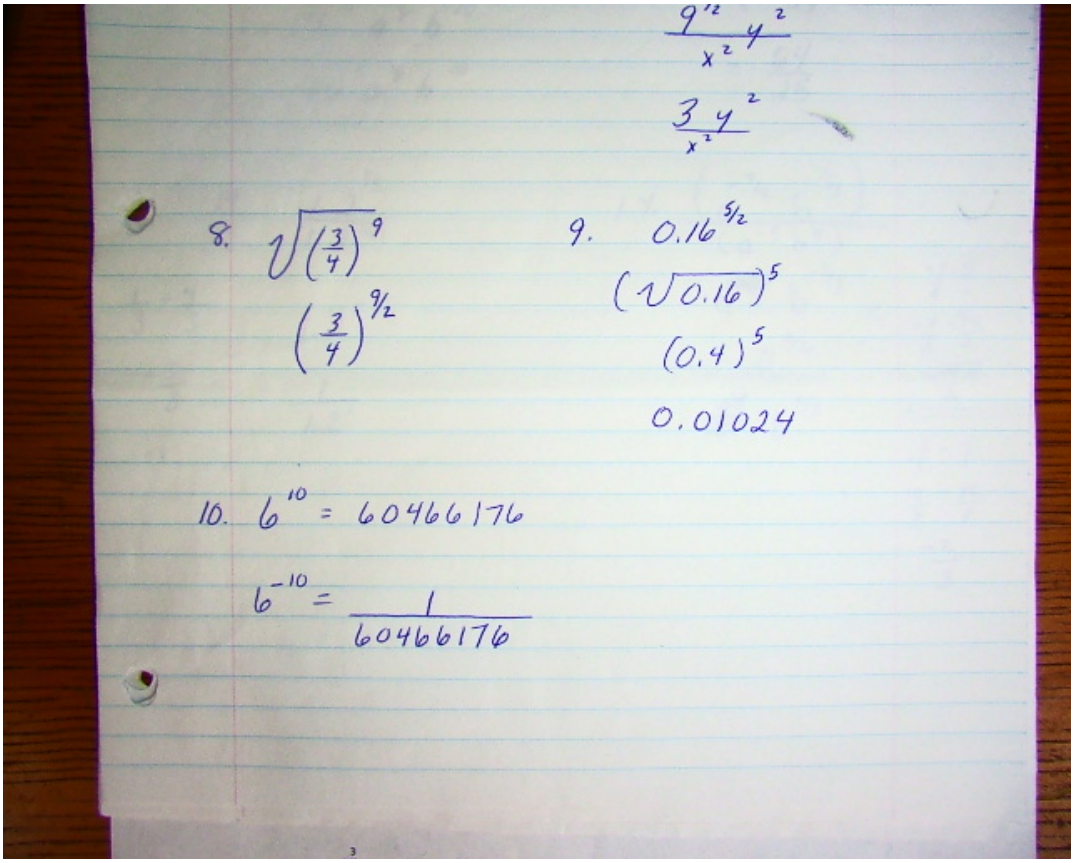
$\left(\frac{3}{4}\right)^{9/2}$

9. $0.16^{5/2}$

$(\sqrt{0.16})^5$

$(0.4)^5$

0.01024



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

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

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

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

9. $0.16^{5/2}$

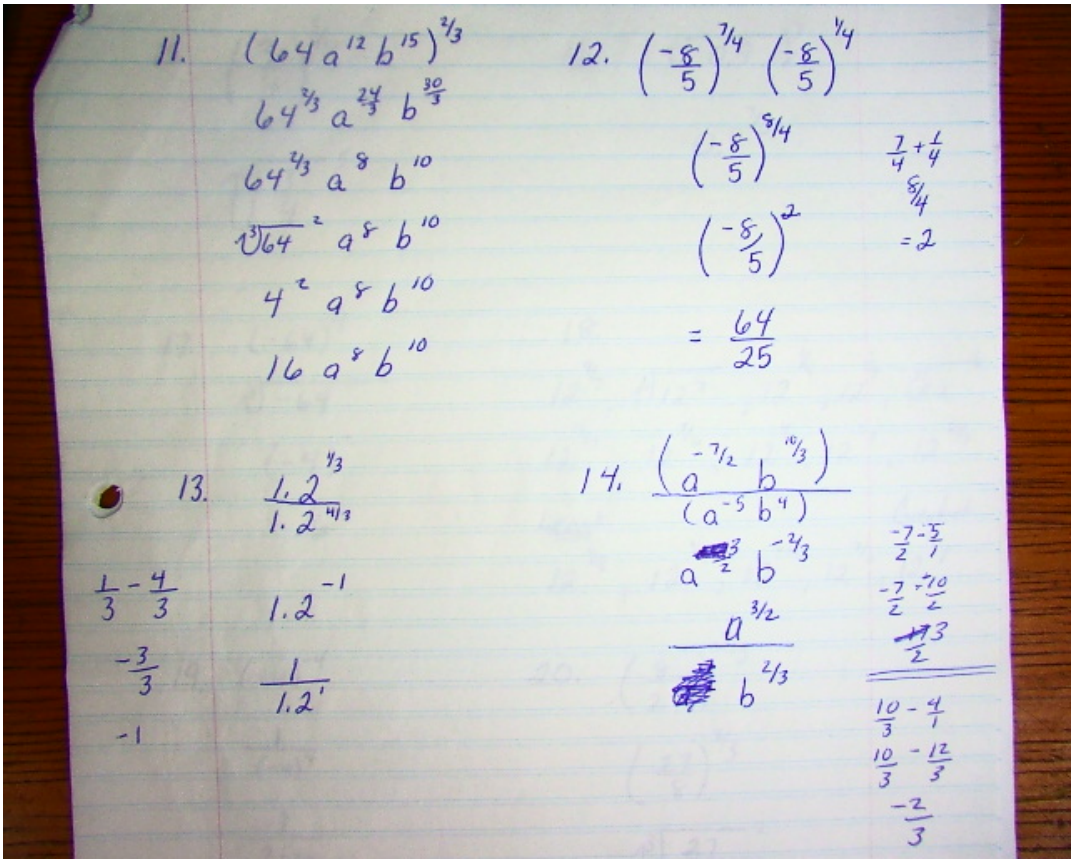
$\left(\sqrt{0.16}\right)^5$

$(0.4)^5$

0.01024

10. $6^{10} = 60466176$

$6^{-10} = \frac{1}{60466176}$



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

1.2^{-1}

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

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

$-\frac{3}{3}$

-1

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

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

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

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

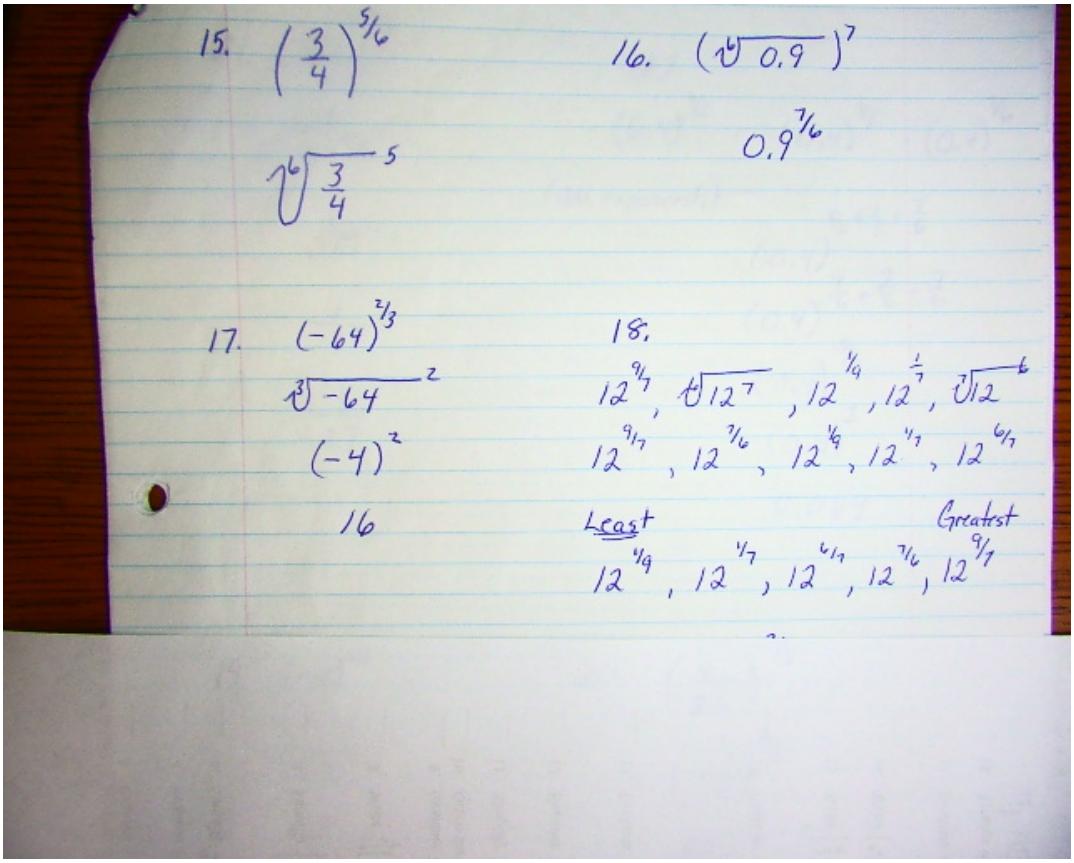
$-\frac{7}{2}-\frac{10}{2}$

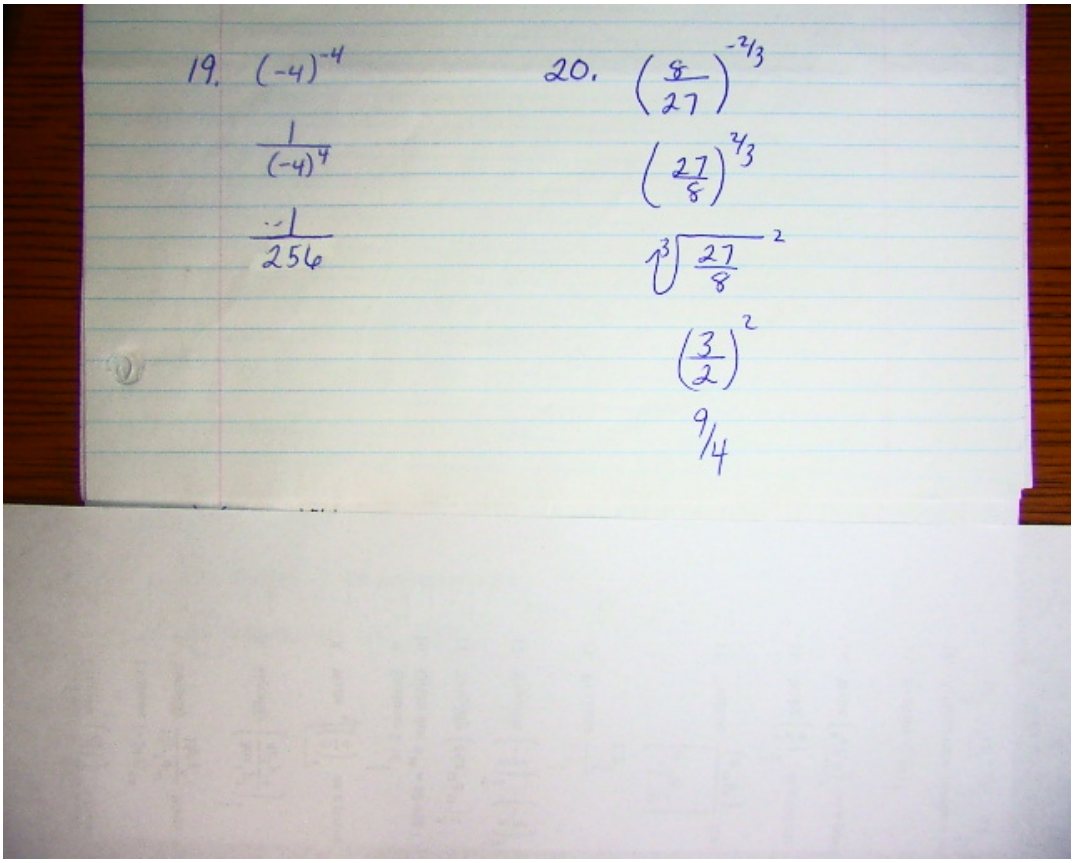
$\frac{3}{2}$

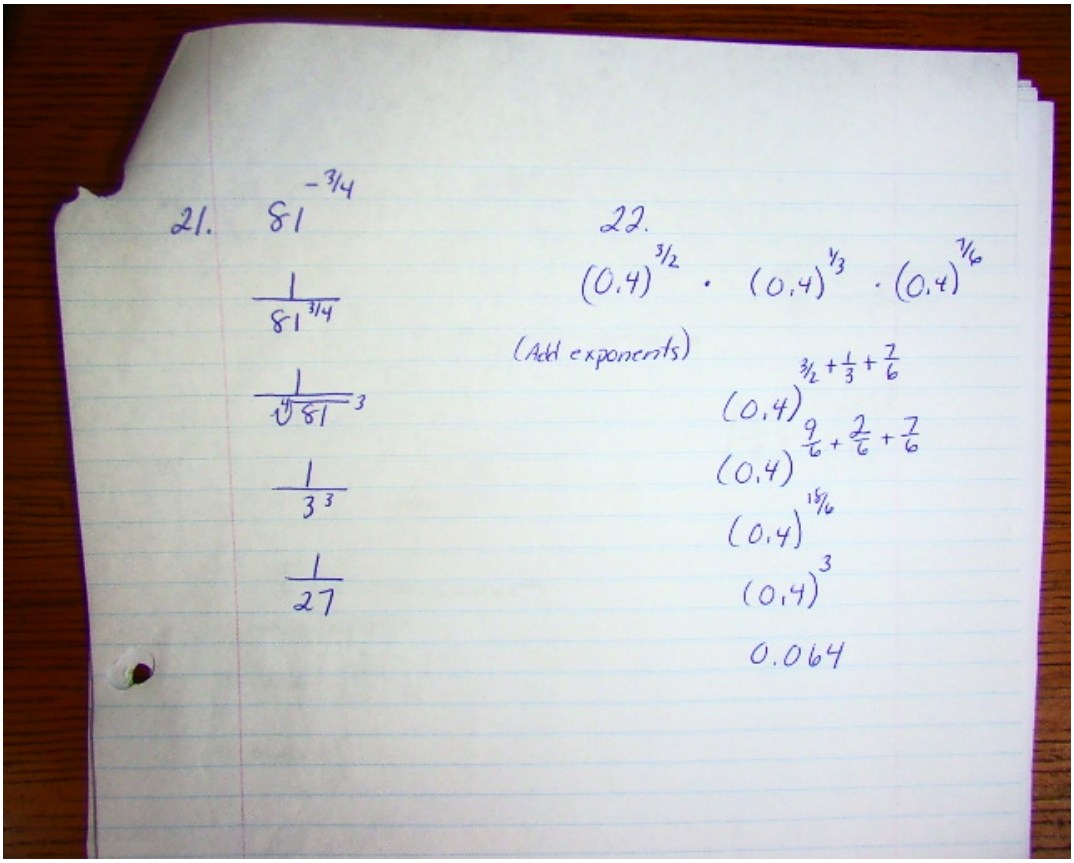
$\frac{10}{3}-\frac{4}{1}$

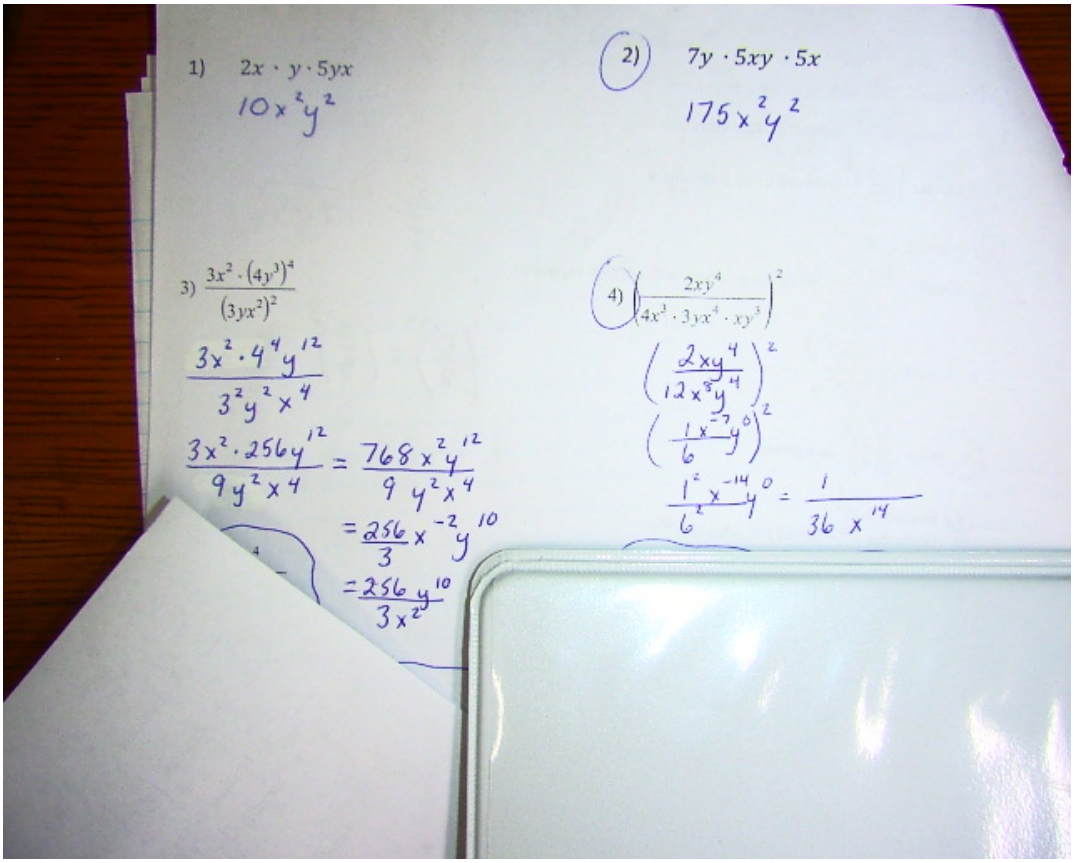
$\frac{10}{3}-\frac{12}{3}$

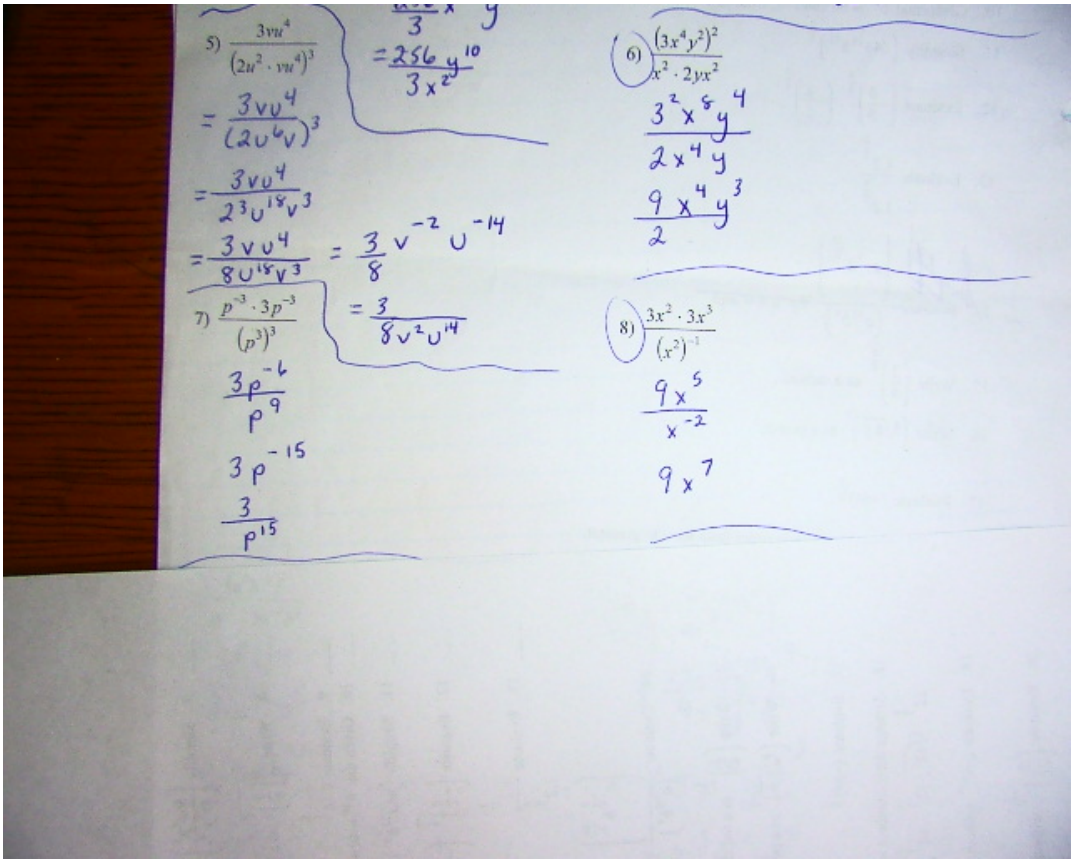
$-\frac{2}{3}$

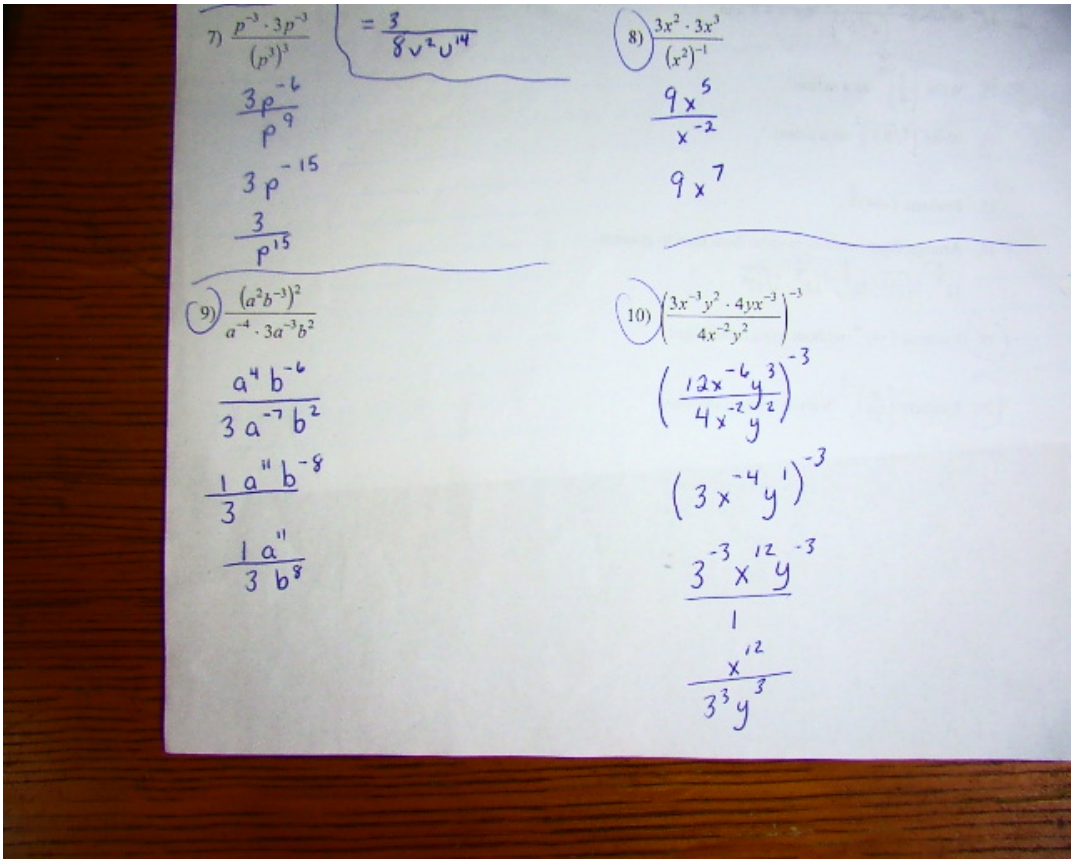

15. $\left(\frac{3}{4}\right)^{5/6}$
$\sqrt[6]{\frac{3}{4}}^{5}$
16. $\left(\sqrt[6]{0.9}\right)^{7}$
$0.9^{7/6}$
17. $(-64)^{2/3}$
$\sqrt[3]{-64}^{2}$
$(-4)^{2}$
16
18.
$12^{9/7}, \sqrt[4]{12^{7}}, 12^{1/9}, 12^{\frac{1}{7}}, \sqrt[7]{12^{6}}$
$12^{9/7}, 12^{7/6}, 12^{1/9}, 12^{1/7}, 12^{6/7}$
Least 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. $81^{-3/4}$
$\frac{1}{81^{3/4}}$
$\frac{1}{\sqrt[4]{81}^3}$
$\frac{1}{3^3}$
$\frac{1}{27}$
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) $\left(\frac{2xy^4}{4x^3 \cdot 3yx^5 \cdot xy^3}\right)^2$
$\left(\frac{2xy^4}{12x^8y^4}\right)^2$
$\left(\frac{1x^{-7}y^0}{6}\right)^2$
$\frac{1^2 x^{-14} y^0}{6^2} = \frac{1}{36x^{14}}$


5) $\frac{3vu^4}{(2u^2 \cdot vu^4)^3}$
$= \frac{3vu^4}{(2u^6v)^3}$
$= \frac{3vu^4}{2^3u^{18}v^3}$
$= \frac{3vu^4}{8u^{18}v^3}$
$= \frac{3}{8}v^{-2}u^{-14}$
$= \frac{3}{8v^2u^{14}}$
$= \frac{256y^{10}}{3x^2}$
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) $\frac{3x^2 \cdot 3x^3}{(x^2)^{-1}}$
$\frac{9x^5}{x^{-2}}$
$9x^7$


7) $\frac{p^{-3} \cdot 3p^{-3}}{(p^3)^3}$
$= \frac{3}{8v^2u^{14}}$
$\frac{3p^{-6}}{p^9}$
$3p^{-15}$
$\frac{3}{p^{15}}$
8) $\frac{3x^2 \cdot 3x^3}{(x^2)^{-1}}$
$\frac{9x^5}{x^{-2}}$
$9x^7$
9) $\frac{(a^2b^{-3})^2}{a^{-4} \cdot 3a^{-3}b^2}$
$\frac{a^4b^{-6}}{3a^{-7}b^2}$
$\frac{1a^{11}b^{-8}}{3}$
$\frac{1a^{11}}{3b^8}$
10) $\left(\frac{3x^{-3}y^2 \cdot 4yx^{-3}}{4x^{-2}y^2}\right)^{-3}$
$\left(\frac{12x^{-6}y^3}{4x^{-2}y^2}\right)^{-3}$
$(3x^{-4}y^1)^{-3}$
$\frac{3^{-3}x^{12}y^{-3}}{1}$
$\frac{x^{12}}{3^3y^3}$