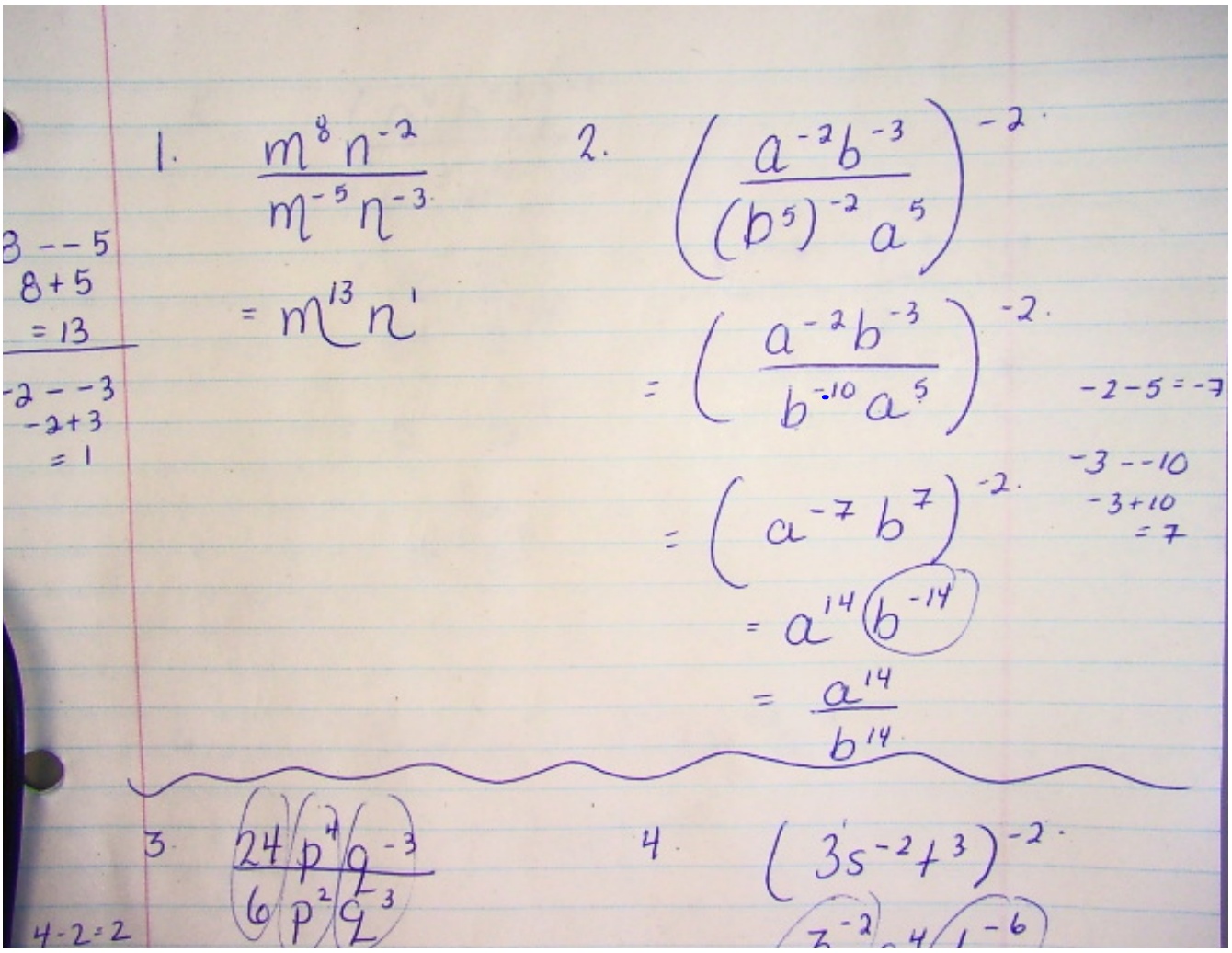


1. $\frac{m^8 n^{-2}}{m^{-5} n^{-3}}$

$= m^{13} n^{1}$

$8 - -5$
$8+5$
$= 13$

$-2 - -3$
$-2+3$
$= 1$

2. $\left(\frac{a^{-2}b^{-3}}{(b^5)^{-2}a^5}\right)^{-2}$

$= \left(\frac{a^{-2}b^{-3}}{b^{-10}a^5}\right)^{-2}$

$-2-5=-7$

$-3 - -10$
$-3+10$
$= 7$

$= \left(a^{-7}b^{7}\right)^{-2}$

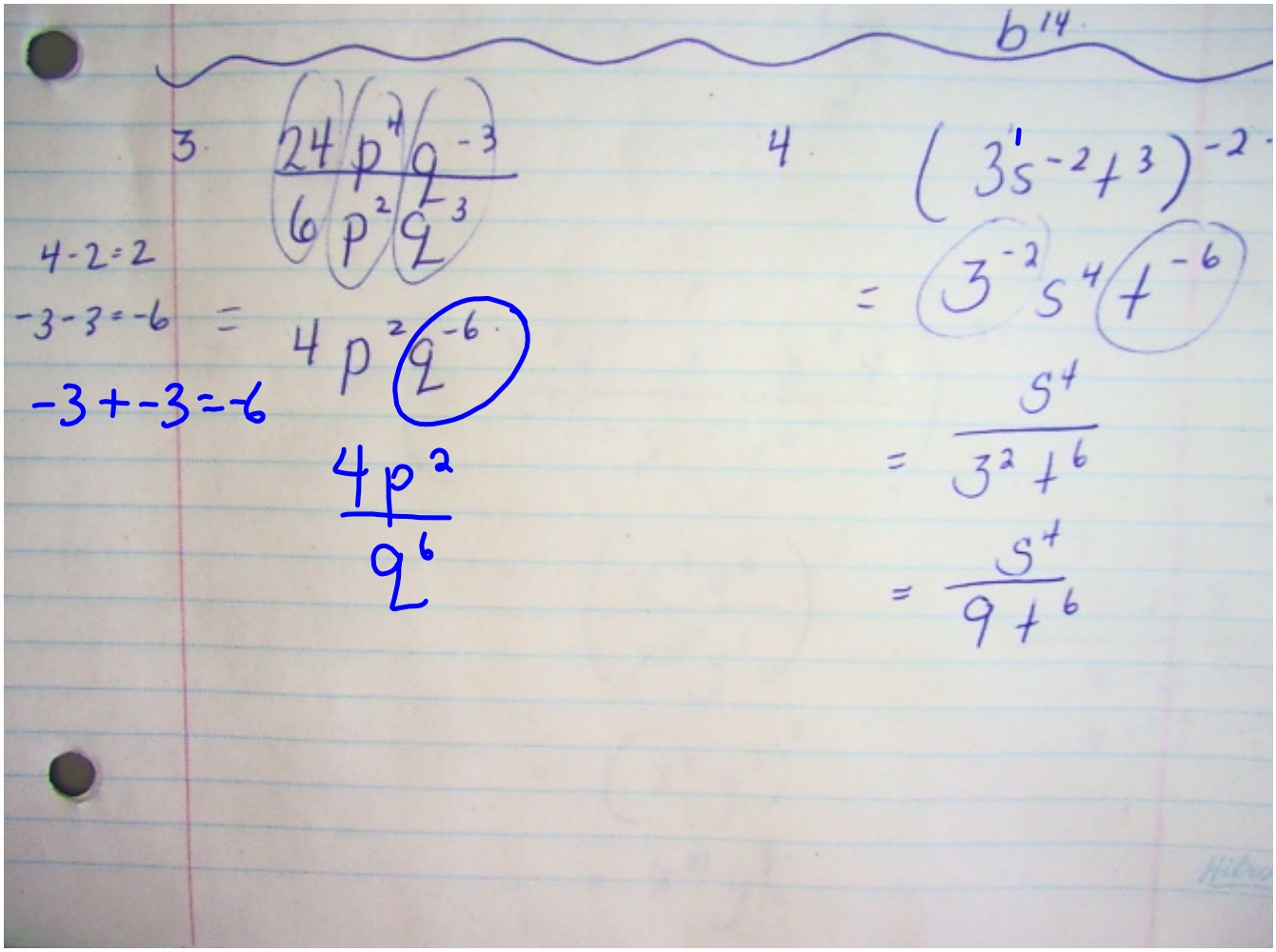
$= a^{14}b^{-14}$

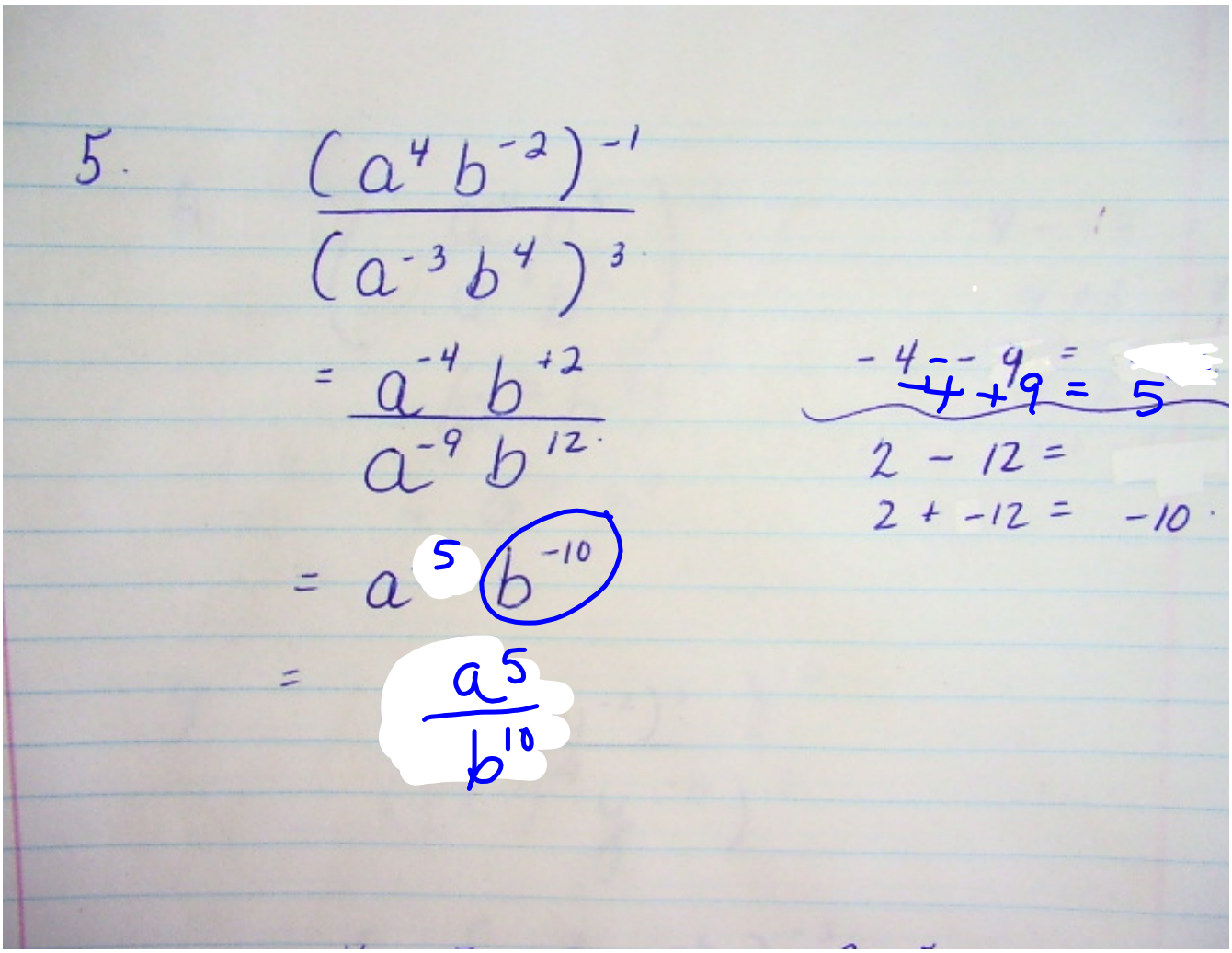
$= \frac{a^{14}}{b^{14}}$

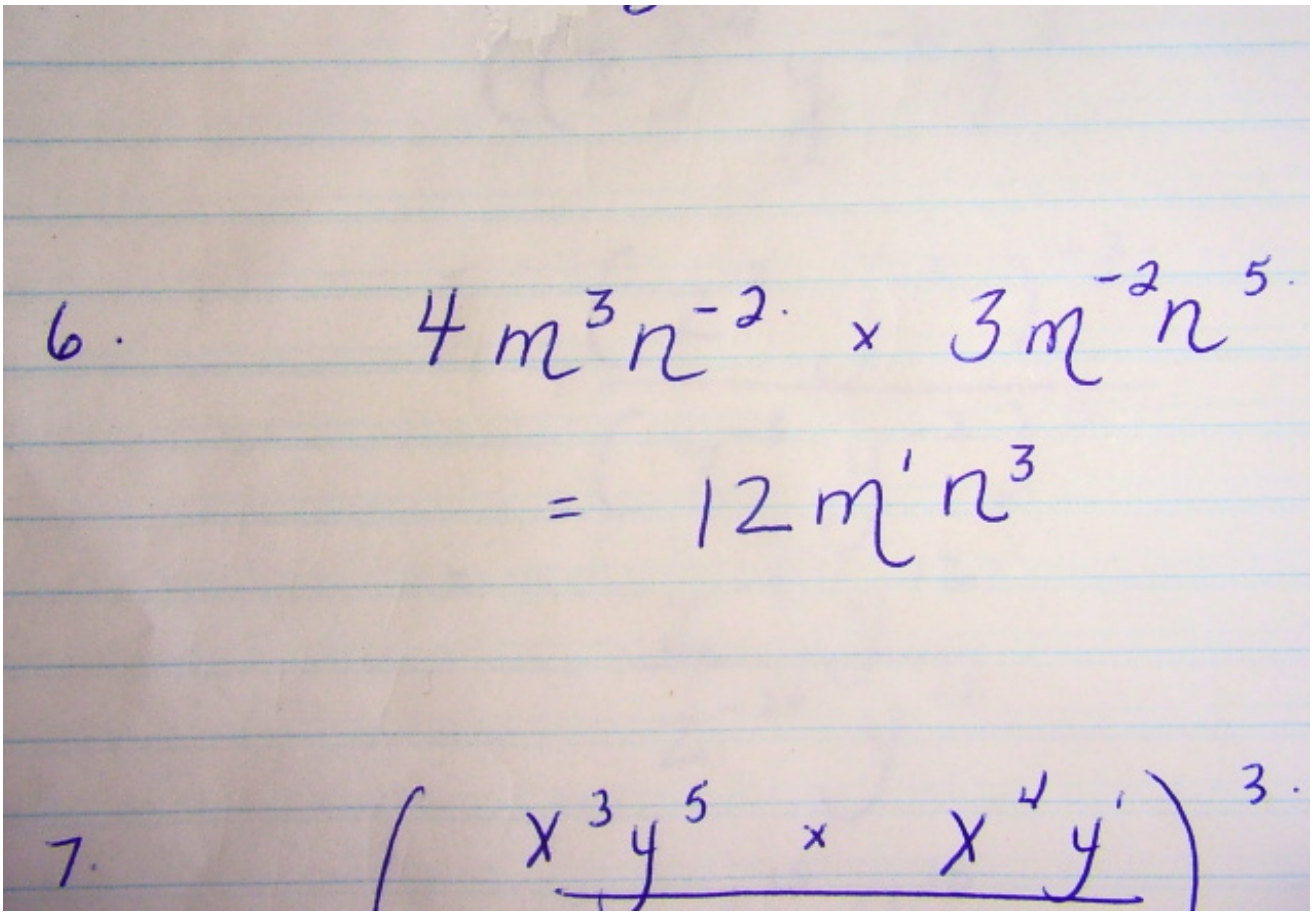
3. $\frac{24p^4q^{-3}}{6p^2q^3}$

$4-2=2$

4. $(3s^{-2}t^3)^{-2}$


b^{14}
3. $\frac{24p^4q^{-3}}{6p^2q^3}$
$4-2=2$
$-3-3=-6$
$-3+-3=-6$
$= 4p^2q^{-6}$
$\frac{4p^2}{q^6}$
4. $(3s^{-2}t^3)^{-2}$
$= 3^{-2}s^4t^{-6}$
$= \frac{s^4}{3^2t^6}$
$= \frac{s^4}{9t^6}$


5.
$\frac{(a^4 b^{-2})^{-1}}{(a^{-3} b^4)^3}$
$= \frac{a^{-4} b^{+2}}{a^{-9} b^{12}}$
$= a^5 b^{-10}$
$= \frac{a^5}{b^{10}}$
$-4 - -9 =$
$-4 + 9 = 5$
$2 - 12 =$
$2 + -12 = -10$


6. $4m^3n^{-2} \times 3m^{-2}n^5$
$= 12m^1n^3$
7. $\left(\frac{x^3y^5 \times x^4y^1}{}\right)^3$

$= 12mn^{5}$

7. $\left(\dfrac{x^{3}y^{5} \times x^{4}y^{1}}{x^{-2}y^{3}}\right)^{3}$

$= \left(\dfrac{x^{7}y^{6}}{x^{-2}y^{3}}\right)^{3}$

$= (x^{9}y^{3})^{3}$

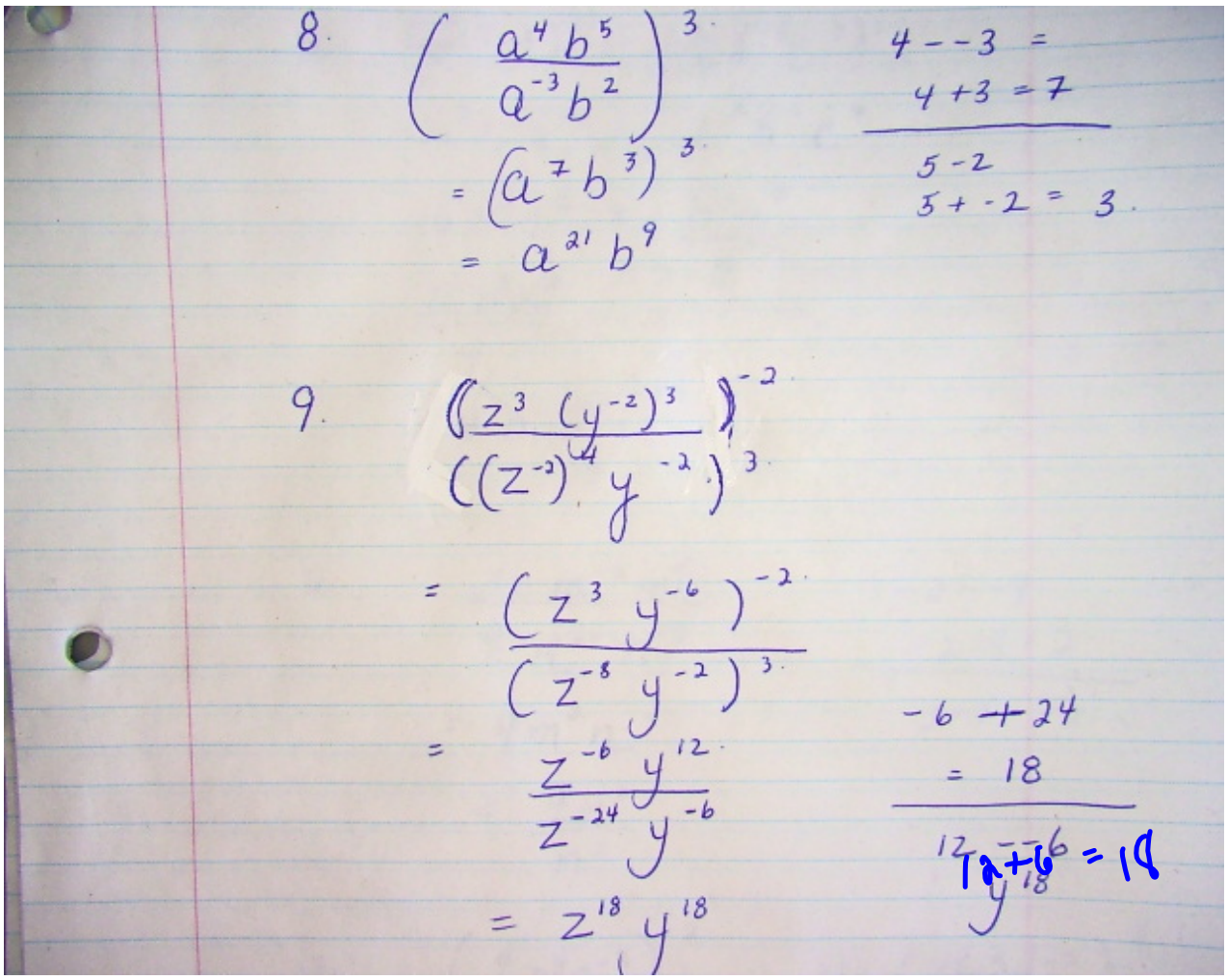
$= x^{27}y^{9}$

$7 - -2$

$7 + 2 = 9$

$6 - 3$

$6 + -3 = 3$



8. $\left(\frac{a^4 b^5}{a^{-3} b^2}\right)^3$

$= (a^7 b^3)^3$

$= a^{21} b^9$

$4 - -3 = 4 + 3 = 7$

$5 - 2 \quad 5 + -2 = 3$

9. $\left(\frac{(z^3 (y^{-2})^3}{((z^{-2})^4 y^{-2})^3}\right)^{-2}$

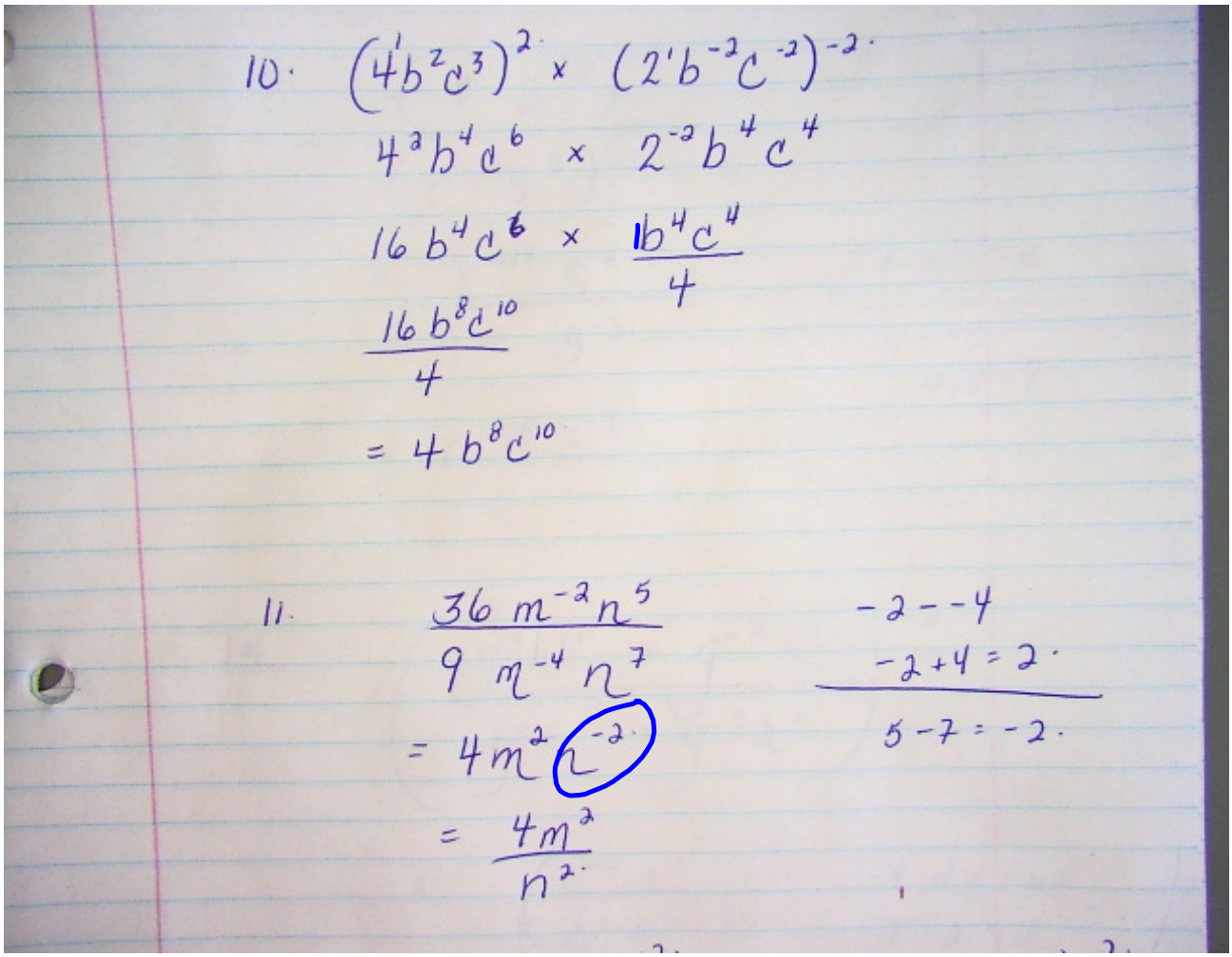
$= \frac{(z^3 y^{-6})^{-2}}{(z^{-8} y^{-2})^3}$

$= \frac{z^{-6} y^{12}}{z^{-24} y^{-6}}$

$= z^{18} y^{18}$

$-6 + 24 = 18$

$12 - -6 \quad 12 + 6 = 18$



10. $(4b^2c^3)^2 \times (2b^{-2}c^{-2})^{-2}$

$4^2 b^4 c^6 \times 2^{-2} b^4 c^4$

$16 b^4 c^6 \times \frac{1}{4} b^4 c^4$

$\frac{16 b^8 c^{10}}{4}$

$= 4 b^8 c^{10}$

11. $\frac{36 m^{-2} n^5}{9 m^{-4} n^7}$

$= 4 m^2 n^{-2}$

$= \frac{4m^2}{n^2}$

$-2 - -4$

$-2 + 4 = 2$

$5 - 7 = -2$

12. $\left(\frac{4^1 p^4 q^{-3}}{3^1 p^4 q}\right)^{-2}$

$= \frac{4^{-2} p^{-8} q^6}{3^{-2}}$

$= \frac{3^2 q^6}{4^2 p^8}$

$= \frac{9q^6}{16p^8}$

13. $\left(\frac{12^1 c^5 d^{-2}}{3^1 c^{-2} d^3}\right)^2$

$5 - -2$
$5 + 2$

$-2 - 3$
$= -5$

$= \left(4^1 c^7 d^{-5}\right)^2$

$= 4^2 c^{14} d^{-10}$

$= \frac{16c^{14}}{d^{10}}$

14. $\dfrac{(r^{7}s^{-2})^{-2}}{(r^{-10}s^{5})^{-1}}$

$= \dfrac{r^{-14}s^{4}}{r^{10}s^{-5}}$

$= r^{-24}s^{9}$

$= \dfrac{s^{9}}{r^{24}}$

$-14-10=-24$

$4--5=$

$4+5=9$

15. $\left(\frac{g^3h^{-1} \times g^{-7}h^5}{g^4h^{-4} \times g^{-3}h^6}\right)^{-3}$

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

$= (g^{-5}h^2)^{-3}$

$= g^{15}h^{-6}$

$= \frac{g^{15}}{h^6}$