

Algebra 3 Assignment # 3

Simplify the following:

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

(2) $\frac{(-2)^5}{(-2)^3}$

(3) $\frac{2^3 \bullet 3^4 \bullet 4^5}{2^2 \bullet 3^3 \bullet 4^4}$

(4) $\frac{2^{10}}{4^3}$

(5) $\left(\frac{2}{3}\right)^{-2} + \left(\frac{2}{3}\right)^{-1}$

(6) $(2a)^3 (3a)^2$

(7) $(-2a^2b^0)^4$

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

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

(10) $\frac{5x^0y^{-2}}{x^{-1}y^{-2}}$

(11) $\frac{(-3a)^2}{a^{-2}b^{-2}}$

(12) $\frac{(a+b)^{-2}}{(a+b)^{-8}}$

(13) $2^x \bullet 2^3 = 2^{12}$

(14) $\frac{x^{-1} - y^{-1}}{x^{-1} + y^{-1}}$

Answers:

1. 1

2. 4

3. 24

4. 16

5. $\frac{15}{4}$

6. $72a^5$

7. $16a^8$

8. $\frac{x^8}{y^6}$

9. $\frac{y^7}{x^5}$

10. $5x$

11. $9a^4b^2$

12. $(a+b)^6$

13. 9

14. $\frac{y-x}{x+y}$