

Algebra 3 Assignment # 4

Simplify the following:

1. $(5a)(-2a^2b)^3$

2. $(3x^2yz^2)^3(-2x^3z^2)^2$

3. $\frac{(-2x^2y)^3}{(6xy^2)^2}$

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

5. $\frac{x^0}{3a^0+6}$

6. $x^t \cdot x^{t+1}$

7. $\frac{8^n}{8^{n-1}}$

8. $(c^x y^{2x})^x$

9. $(c^{x+2}y^3)^x$

10. $\left(\frac{1}{a^{-1}}\right)^{-1}$

11. $(3x)^3(6x^2)-(2x^4)(5x)$

12. $(y^n)(y^n)-(x^m)(x^m)$

13. $-5b^{-5}$

14. $\frac{(x^3y^{-4})^3(2x^4y^5)}{9x^{10}y^{12}}$

15. $(2x)^2(-3x)-\frac{8(x^3+y^3)^5}{8(x^3+y^3)^4}+y(-5y)^2$

16. $(x^2)(-3x)^3-\frac{10(x^5+y^5)^{20}}{5(x^5+y^5)^{19}}-y(-2y)^4$

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

18. $(-n)^4(2xy^2n)^3+(4xy^3n^2)^2(-3xn^3)$

19. 2^x+2^x

20. $2^x+2^x+2^x+2^x$

21. $3^x+3^{x+1}+3^x+3^{x+1}+3^x$

22. $2y^2x^{-3}(3yx^4+2^3y^{-1}x^n)$

Solve for the Variable:

23. $2^{-3} \cdot 2^x = 2^6$

24. $2^x \cdot 2^{x-1} = 2^7$

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Answers:

1. $-40a^7b^3$

2. $108x^{12}y^3z^{10}$

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

4. $\frac{a^{11}c^4}{b^7}$

5. $1/9$

6. x^{2t+1}

7. 8

8. $c^{x^2}y^{2x^2}$

9. $c^{x^2+2x}y^{3x}$

10. $1/a$

11. $152x^5$

12. $y^{2n} - x^{2m}$

13. $\frac{-5}{b^5}$

14. $\frac{2x^3}{9y^{19}}$

15. $-13x^3 + 24y^3$

16. $-29x^5 - 18y^5$

17. $\frac{64x^8z}{9y^3}$

18. $-40x^3y^6n^7$

19. 2^{x+1}

20. 2^{x+2}

21. 3^{x+2}

22. $6y^3x + 2^4yx^{n-3}$

23. $x=9$

24. $x=4$