

Advanced Algebra - Monomials  
Assignment # 1

Name \_\_\_\_\_

Simplify.

1.  $(x^3y^2)(x^2y^4)$

2.  $(3a^2b^3)(a^3b^4)$

3.  $(-2x^4y^2)(5x^2y^5)$

4.  $(3ab^3)(-2a^4bc^2)(4ac^5)$

5.  $(a^3b^4)^3$

6.  $(4s^4t^5)^2$

7.  $(-2c^3d^2)^3$

8.  $(2a^4b^5)^4$

9.  $(5c^4d^3)(2c^3)$

10.  $(3ab^5)(-2b)$

11.  $(5x^3y^5)^2$

12.  $(-4a^6b^2)^3$

13.  $(-a^3b)(3a^3b^2)^2$

14.  $(3xy^3)^4$

15.  $(x^{3a})(x^{2a})$

16.  $(x^{4a})(x^{2a+3})$

17.  $(x^a)(x^a)$

18.  $(x^{2a+1})(x^{3-2a})$

19.  $(x^3)^a$

20.  $(x^{4a})^3$

21.  $(x^a)^a$

22.  $(-2x)^3(3x^2) + (2x^4)(5x)$

24.  $(2ab)^2 + (-2b)(3ab)(-5a)$

25.  $(5x)^{2a}$

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Name Key

Simplify.

1.  $(x^3y^2)(x^2y^4)$   
 $x^5y^6$

2.  $(3a^2b^3)(a^3b^4)$   
 $3a^5b^7$

3.  $(-2x^4y^2)(5x^2y^5)$   
 $-10x^6y^7$

4.  $(3ab^3)(-2a^4bc^2)(4ac^5)$   
 $-24a^6b^4c^7$

5.  $(a^3b^4)^3$   
 $a^9b^{12}$

6.  $(4s^4t^5)^2$   
 $16s^8t^{10}$

7.  $(-2c^3d^2)^3$   
 $-8c^9d^6$

8.  $(2a^4b^5)^4$   
 $16a^{16}b^{20}$

9.  $(5c^4d^3)(2c^3)$   
 $10c^7d^3$

10.  $(3ab^5)(-2b)$   
 $-6ab^6$

11.  $(5x^3y^5)^2$   
 $25x^6y^{10}$

12.  $(-4a^6b^2)^3$   
 $-64a^{18}b^6$

13.  $(-a^3b)(3a^3b^2)^2$   
 $(-a^3b)(9a^6b^4)$   
 $-9a^9b^5$

14.  $(3xy^3)^4$   
 $81x^4y^{12}$

15.  $(x^{3a})(x^{2a})$   
 $x^{5a}$

16.  $(x^{4a})(x^{2a+3})$   
 $x^{6a+3}$

17.  $(x^a)(x^a)$   
 $x^{2a}$

18.  $(x^{2a+1})(x^{3-2a})$   
 $x^4$

19.  $(x^3)^a$   
 $x^{3a}$

20.  $(x^{4a})^3$   
 $x^{12a}$

21.  $(x^a)^a$   
 $x^{a^2}$

22.  $(-2x)^3(3x^2) + (2x^4)(5x)$   
 $(-8x^3)(3x^2) + (2x^4)(5x)$   
 $-24x^5 + 10x^5$   
 $-14x^5$

24.  $(2ab)^2 + (-2b)(3ab)(-5a)$   
 $4a^2b^2 + 30a^2b^2$   
 $34a^2b^2$

25.  $(5x)^{2a}$   
 $5^{2a}x^{2a}$