

**Polynomials****Multiplying Exponents**

Rule:  $x^a \cdot x^b = x^{a+b}$

Example:  $a^4 \cdot a^3 = a^7$

Multiply the polynomials.

1.  $c \cdot c^2 \cdot c^3 =$

2.  $e \cdot e^2 \cdot e^3 \cdot e^4 \cdot e^5 =$

3.  $a^3 \cdot a^4 \cdot a^7 \cdot a =$

4.  $(3xy^2)(2x^2y^3) =$

5.  $(2a^2b)(4ab^2) =$

6.  $(5f)(-3f^3)(2f) =$

7.  $(m^2n)(4mn^2)(mn) =$

8.  $(4k^2)(-3k)(3k^5) =$

9.  $(-2c^4)(4cd)(-cd^2) =$

10.  $(3x^3)(3x^4)(-3x^2) =$

11.  $(-1)(x)(-x^2)(x^3)(-x^2) =$

12.  $(3x^2)(-3x^5) =$

13.  $(c^2h)(3ch^3)(2c^3h^4) =$

14.  $(-4p^3)(-4p^6)(-2p^9) =$

15.  $(12c^3)(2g^3)(4ch) =$

16.  $(4x^2y^3)(x^3y)(-x^2y^2) =$

17.  $(-4f^3)(-3m^3) =$

18.  $(2c^2d^2)(-5cd^4) =$

19.  $(4c^2)(-5c^7) =$

20.  $(3x)(-4y^2)(6x^3y) =$

## Polynomials

## Dividing Exponents

$$\text{Rule: } \frac{x^a}{x^b} = x^{a-b} \quad \text{Example: } \frac{x^6}{x^4} = x^{6-4} = x^2 \quad \frac{x^3}{x^{-2}} = x^{3-(-2)} = x^5$$

Divide the polynomials.

1.  $\frac{-12m^5}{6m} =$

2.  $\frac{x^3}{x^2} =$

3.  $\frac{9a^3b^5}{-3ab^2} =$

4.  $\frac{(6x^3)(3x^8)}{-12x^{10}} =$

5.  $\frac{16c^3}{-4c^2} =$

6.  $\frac{d^3}{d^2} =$

7.  $\frac{-3p^8}{6p^2} =$

8.  $\frac{-54c^2d^4}{-8cd} =$

9.  $\frac{49r^{13}}{-7r^8} =$

10.  $\frac{45k^7r^3}{-3k^5} =$

11.  $\frac{-14c^{15}d^3}{-2c^9d} =$

12.  $\frac{21k^9}{(3k)(7k^4)} =$

13.  $\frac{(5k)(-8k^5)}{10k^3} =$

14.  $\frac{(110c^3)(-c^9)}{11c^5} =$

15.  $\frac{24x^2y}{-4x^2} =$

16.  $\frac{4x^2y^3z^4}{2xy^2z^3} =$

17.  $\frac{9a^{11}}{a^3} =$

18.  $\frac{(3xy)(4x^2y)}{-6xy^2} =$

19.  $\frac{22y^5z^8}{2yz^7} =$

20.  $\frac{b^{14}c^9}{b^5c^4} =$

E  
x  
x  
(  
x  
x  
x  
(x