

ALGEBRA

Write your questions here!



## PRODUCT RULE!

$$8^5 \cdot 8^3 =$$

$$y^9(y) =$$

$$a^4 a^3 a^{10} =$$

$$2x^4(3x^5) =$$

## POWER RULE!

$$(7^4)^3 =$$

$$(x^5)^2 =$$

$$(-10x^6)^2 =$$

$$\left(\frac{1}{3}xy^3\right)^2 =$$

## QUOTIENT RULE!

$$\frac{2^5}{2^3}$$

$$\frac{2^{11}}{2^6} =$$

base =

$$\frac{(-4)^7}{(-4)^4} =$$

base =

$$\frac{x^5}{x^3} =$$

base =

$$\frac{3y^{11}}{12y^5} =$$

$$\frac{6x^9y^4z^5}{2xy^2z^4} =$$

$$\left(\frac{2}{3}\right)^3 =$$

$$\left(\frac{x}{y}\right)^3 =$$

$$\left(\frac{2x}{y^2}\right)^3 =$$

G  
E  
MD  
AS

G  
E  
MD  
AS

G  
E  
MD  
AS

$$5y^3 \cdot 6y^7 =$$

$$(4x^5y^3)^4 =$$

$$\frac{5a^8b^5}{7a^5b^3} =$$

**BRING THE PAIN!**

$$\frac{(2a^3b^4)^3(4ab^5)}{64a^5b^3}$$

G  
E  
MD  
AS

**Summarize your notes!**

## 9.2 PRACTICE

**Simplify. PRODUCT RULE!**

1)  $10^5 \cdot 10^{10}$

2)  $5^5 \cdot 5^9$

3)  $10^4 \cdot 10^8$

4)  $6^4 \cdot 6^5$

5)  $10v^{10} \cdot v^6$

6)  $4n^5 \cdot 5n^6 \cdot 7n^4$

7)  $3b^7 \cdot 5b^9$

8)  $10x^3 \cdot 4x^4$

9)  $4x^8y^3 \cdot 5x^3y^2$

10)  $9x^8y^3 \cdot x^5y^7$

**Simplify. POWER RULE!**

11)  $(-3)^3$

12)  $(4^2)^2$

13)  $2^2$

14)  $(3^4)^3$

15)  $(v^9)^7$

16)  $(x^7)^9$

17)  $(2b^2)^5$

18)  $(2n^5)^3$

19)  $(2m^7n^6)^{10}$

20)  $(x^3y^{10})^2$

**Simplify. QUOTIENT RULE!**

21)  $\frac{9^7}{9^3}$

22)  $\frac{9^{10}}{9^4}$

23)  $\frac{8^6}{8^4}$

24)  $\frac{5^8}{5^6}$

25)  $\frac{2x^{10}}{8x^5}$

26)  $\frac{2v^{10}}{2v^5}$

27)  $\frac{8a^4}{10a^3}$

28)  $\frac{9m^6}{5m^5}$

29)  $\frac{10a^5}{8a^4}$

30)  $\frac{7x^7y^5}{9y^4}$

**Simplify. BRING THE PAIN!**

31)  $\frac{2^3 \cdot 2^4}{(2^3)^2}$

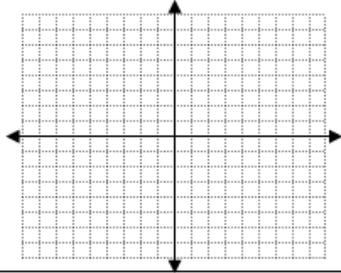
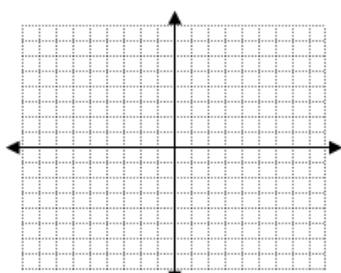
32)  $\frac{(2^2)^3 \cdot 2^3}{2}$

33)  $\frac{(a^3)^7}{a^8 a^7}$

34)  $\frac{(r^9)^9}{2r^7 \cdot 2r^2}$

35)  $\frac{(2x^6y^7)^8}{x^2 \cdot xy^2}$

36)  $\frac{(2a^9b^5)^8}{a^5b^5 \cdot ab^{10}}$

SKILLZ REVIEW		
<p><b>GRAPH</b></p> <p>1. <math>y = -\frac{2}{3}x + 1</math></p> 	<p><b>EVALUATE</b></p> <p>2. <math>-5a + 2b^2</math>, when <math>a = 3</math> and <math>b = -2</math></p>	<p><b>SOLVE</b></p> <p>3. <math>2(3x - 1) = 22</math></p>
<p>4. <math>y = -3</math></p> 	<p>5. <math>2d + \frac{5t}{2}</math>, when <math>d = -2</math> and <math>t = 4</math></p>	<p>6. <math>4(2x - 5) - 3x = 2x - 2</math></p>

# 9.2 APPLICATION

Simplify the following expression.

1.  $\frac{12d^4}{3d^2} =$

2.  $\frac{(3x^3)^9}{3^5x^{15}} =$

### 3. GEOMETRIC PROBABILITY

A point is randomly selected on an object, to find the probability that the point lies in the shaded region use the formula  $p(\text{shaded region}) = \frac{\text{area of shaded region}}{\text{area of the outside object}}$ .

Find the probability that a randomly selected point falls in the shaded region.

Numeric Solutions	
a.	
	Area of Shaded Region =
	Area of Outside Object =
	$p(\text{shaded region}) =$

Variable Solutions	
b.	
	Area of Shaded Region =
	Area of Outside Object =
	$p(\text{shaded region}) =$
c.	<p style="text-align: center;">Area of circle = <math>\pi r^2</math></p>
	Area of Shaded Region =
	Area of Outside Object =
	$p(\text{shaded region}) =$