

Name Key

Period \_\_\_\_\_

Algebra Quiz Review (7.1 - 7.4)

Simplify. Assume that no denominator equals zero.

1.  $n^6 \cdot n^3$

1.  $n^9$

2.  $\frac{6^{15}}{6^9}$

2.  $6^6 = 46,656$

3.  $(-4t^2n^3)(3tn^4)$

3.  $-12t^3n^7$

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

4.  $-125x^{12}y^6$

5.  $\left(\frac{24x^3y^{-6}z^{10}}{8x^{-2}y^5z^8}\right)^0$

5. 1

6.  $\left(\frac{3r^6n^3}{2r^5n}\right)^4$   $\frac{81r^{24}n^{12}}{16r^{20}n^4}$

6.  $\frac{81r^4n^8}{16}$

7.  $\frac{r^6n^{-7}}{r^4n^2}$   $r^2n^{-9}$

7.  $\frac{r^2}{n^9}$

8.  $\sqrt[4]{81}$

8. 3

9.  $\sqrt[3]{343}$

9. 7

Write each expression in radical form, or write each radical in exponential form.

10.  $\sqrt{12n}$   $(12n)^{1/2} = (3 \cdot 4n)^{1/2}$

10.  $2(3n)^{1/2}$

11.  $5x^{1/2}$

11.  $5\sqrt{x}$

12. Simplify  $8^{2/3}$   
 $(8^{1/3})^2 = (2)^2$

12.  $4$

Solve each equation.

13.  $2^x = 128$   $2^x = 2^7$

13.  $7$

14.  $3^{3x+1} = 81$   $3^{3x+1} = 3^4$   
 $3x+1 = 4$   
 $3x = 3 \Rightarrow x = 1$

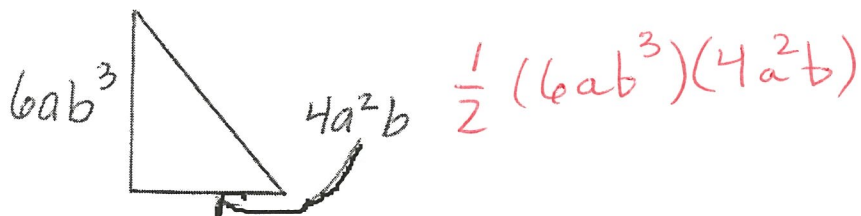
14.  $1$

15.  $4^{5x-3} = 16$   $4^{5x-3} = 4^2$   
 $5x-3 = 2$   
 $5x = 5$   
 $x = 1$

15.  $1$

16. Express the area of the following triangle as a monomial.

~~$3ab^4$~~



Rewrite the following numbers in scientific notation.

1. 45,800,000

1.  $4.58 \times 10^7$

2. 0.035

2.  $3.5 \times 10^{-2}$

Rewrite the following numbers in standard form.

3.  $4.5 \times 10^{-5}$

3. .000045

4.  $2.31 \times 10^4$

4. 23,100

Solve. Write your answer in scientific notation and standard form. (use the laws of exponents!!)

5.  $(5.18 \times 10^2)(9.1 \times 10^{-5})$

$(5.18 \times 9.1)(10^2 \times 10^{-5})$   
 $47.138 \times 10^{-3}$   
 $(4.7138 \times 10^1) \times 10^{-3}$

"LARS"

5) Sci. Notation  $4.7138 \times 10^{-2}$

Standard Form .047138

6.  $\frac{6.25 \times 10^{-4}}{1.25 \times 10^2}$

$(\frac{6.25}{1.25})(\frac{10^{-4}}{10^2})$   
 $5 \times 10^{-6}$

6) Sci. Notation  $5.0 \times 10^{-6}$

Standard Form .000005

