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**Lesson 3: Functions and Exponents-Heart of Algebra**

1) What is the area of a square with the length of a side equaling 

2) What is the area of the rectangle with the width of 

**Simplify each Quotient and then find the Value of the Result:**

3)  4)  5)  6)  7) 

**Simplify Each Expression:**

8)  9)  10)  11) 

12)  13)  14) 

15)  16)  17) 

18)  19)  20) 

21)  22)  23) 

**Evaluate each Quotient if x = 2 , y = -2 , and z = 10 :**

24)  25)  26) 

27)  28)  29) 

30)  31)  32) 

If , what is the value of *c*?

This describes a relation for any two real numbers, *x*+*y*. If , find the value of ?

1. s

If , find all values of *i*.

If , find .

1. Sales (*s*) are a function of price (*p*). . When price is $8.00, sales are $1800.00. What should price be in order for sales to reach $2100.00?

If , find .

Solve for *x* as a function of *y* and *z*.

1. , for any real value of *b*.

If , find all values of *m*.

1. Grades (*g*) are a function of effort (*e*) such that . Sam earns a grade of 100 when effort is only 8. To earn a grade of 95, what value of effort should he exert?

Solve for the variable of interest in each of the following: