**Rising Algebra I**

**Students**

**Summer**

**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**This booklet is a review of Pre Algebra mathematical concepts. You should complete each page.**

**Turn this booklet in the first Day back to school.**



**Please be sure to not**

**use the calculator**

**when you see this symbol.**

**Solve for x. Show all work. *Remember to clear out the denominator is needed.***

**1) .5x = 3.5 2)  3) **

**4) 3x – 4 = -22 5) 5 – x = 12 6) **

**Evaluate the following when x = 4, y = -2, and z = 5. Show all work.**

**Evaluate means to substitute the value in for each variable and simplify the expression.**

**1) 3x – y 2) xy + z 3) 4x – 3z**

**4) xyz 5) x – 2y + 3z 6) x (y – 2z)**

**Use the Distributive Property to simplify the following:**

**1) 4(x + 2) 2) 5(2x – 3) 3) -3(x – 4)**

**4)  5) 3(2x – 3y) 6) 7(5 – 2x)**

**Decimal Computation: Show work below**

* 1. **456 – 0.9234 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
  2. **89 + 0.2497 + 9876.003 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
  3. **0.006 x 0.00009 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
  4. **2.34 x 0.468 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
  5. **0.7242 ÷ 0.06 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
  6. **109.998 ÷ 54 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Probability**

1. A number is chosen at random from {2, 4, 6, … 80}(Even numbers 2 – 80)
   1. How many numbers are in this set? \_\_\_\_\_\_\_\_\_\_
   2. What is the probability that it is evenly divisible by 5? \_\_\_\_\_\_\_\_\_\_
   3. What is the probability that it is even? \_\_\_\_\_\_\_\_\_\_
   4. What is the probability that it is odd? \_\_\_\_\_\_\_\_\_\_
2. A box contains 5 red balls, 4 green balls, and 2 white balls. A ball is drawn at random from the box. Answer each of the following:
3. What is the total number of balls in the box? \_\_\_\_\_\_\_\_\_\_
4. P (red) \_\_\_\_\_\_\_ 7) P (green) \_\_\_\_\_\_\_ 8) P (white) \_\_\_\_\_\_\_\_

9) P (green or white) \_\_\_\_\_\_\_\_ 10) P (red or white) \_\_\_\_\_\_\_\_

1. A card is chosen at random from a deck of 52.
2. What is the probability it will be a club? \_\_\_\_\_\_\_\_\_\_
3. What is the probability it will be a king? \_\_\_\_\_\_\_\_\_\_
4. What is the probability it will be either a king or a queen? \_\_\_\_\_\_\_
5. What is the probability of a face card (jack, queen, or king)? \_\_\_\_\_\_

**Use order of operations (PEMDAS) to simplify the following.**

**1) 8 + 6 – 3 2) 15 – (7 – 2) – 3 3) 5(4) – 10**

**4) 24 – 21 ÷ 3 5) 18 – 12 ÷ 4 6) 12 – (4 + 7)**

**7) 7(3 + 4) 8) 12 ÷ 3 · 4**

**Use the variable n for the following. Translate each statement into an expression.**

1. a number increased by four: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. four times a number decreased by seven: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. the quotient of a number and seven: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. four less than a number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Simplify the following by combining like terms. Like terms have the same variable and exponent. These terms can be combined with addition and subtraction without changing the exponent of each term.**

**1) 5x – 3x 2) 4y – 7y 3) **

**4) 5x – 3y – x + 7 5) 7y – 12 – 3y 6) 2n – 4 + 3n + 8**

1. **List all the prime numbers from 1 to 100 (there should be 25). Place a semicolon (;) between the numbers.**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**



**Simplify the following:**

**1)  2)  3) **

**4)  5)  6) **

**7)  8)  9) **

**10)  11)  12) **

**Solve the following:**

**1) 2x + 4 = 8x - 26 2) 3x – 9 = 2x + 8**

**3) x - 12 = 5x 4) 7x – 9 = 4x**

**5) 3x – 8 = x + 12 6) 4x + 8 = 2x + 7**

1. **List all the prime numbers from 1 to 100 (there should be 25).**

**Place semicolon(;) between numbers.**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Calculate the Perimeter and Area of the following shapes:**

**\*\* Number inside figure represent**

**height for shapes where height is**

**needed to find Area.**

**Perimeter Area**

**1) 2)**

**Rectangle 12 cm**

**4 cm**

**3) 4)**

**Square 6 cm**

**5) 6)**

**Parallelogram**

**8 cm 7 cm**

**10 cm**

**7) 8)**

**Trapezoid**

**20 cm**

**15 cm 15 cm**

**10 cm**

**28 cm**

**Triangle 9) 10)**

**6 cm 7 cm**

**5 cm**

**9 cm**