Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_

**Heads & Legs**

|  |  |  |  |
| --- | --- | --- | --- |
| **2 legs** | **4 legs** | **6 legs** | **8 legs** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**“Critter” Options**

|  |
| --- |
| tarantulas beetles horses ducks hens ants sheep fruit flies spiders cows ladybugs chickens geese |

Jose has a collection of bugs. All of them are either beetles or tarantulas. He has a total of 47 bugs. Altogether they have 320 legs. How many beetles or tarantulas does he have. Justify your answer.

**Example: Heads & Legs**

Total # of “Critters”: \_\_\_\_\_\_\_

Total # of Legs: \_\_\_\_\_\_\_

|  |  |
| --- | --- |
| **Types of “Critters”** | **# of Legs** |
|  |  |
|  |  |

Equations: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Equations solved for y: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solution Ordered Pair: ( , )

# of “Critters” \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Problem 1: Heads & Legs**

Total # of “Critters”: \_\_\_\_\_\_\_

Total # of Legs: \_\_\_\_\_\_\_

|  |  |
| --- | --- |
| **Types of “Critters”** | **# of Legs** |
|  |  |
|  |  |

Equations: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Equations solved for y: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solution Ordered Pair: ( , )

# of “Critters” \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Problem 2: How Much Did You Say?**

Total # of Questions: \_\_\_\_\_\_\_

Total # of Points: \_\_\_\_\_\_\_

|  |  |
| --- | --- |
| **Types of Questions** | **# of Points** |
|  |  |
|  |  |

Equations: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Equations solved for y: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solution Ordered Pair: ( , )

# of Questions: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Problem 3: Heads & Legs**

Total # of “Critters”: \_\_\_\_\_\_\_

Total # of Legs: \_\_\_\_\_\_\_

|  |  |
| --- | --- |
| **Types of “Critters”** | **# of Legs** |
|  |  |
|  |  |

Equations: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Equations solved for y: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solution Ordered Pair: ( , )

# of “Critters” \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Problem 4: How Much Did You Say?**

Total # of Coins: \_\_\_\_\_\_\_

Total Value of Money: \_\_\_\_\_\_\_

|  |  |
| --- | --- |
| **Types of Coin** | **Value of Coin** |
|  |  |
|  |  |

Equations: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Equations solved for y: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solution Ordered Pair: ( , )

# of Coins: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Problem 5: Heads & Legs**

Total # of “Critters”: \_\_\_\_\_\_\_

Total # of Legs: \_\_\_\_\_\_\_

|  |  |
| --- | --- |
| **Types of “Critters”** | **# of Legs** |
|  |  |
|  |  |

Equations: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Equations solved for y: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solution Ordered Pair: ( , )

# of “Critters” \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Problem 6: How Much Did You Say?**

Total # of Numbers: \_\_\_\_\_\_\_

Total # of Points: \_\_\_\_\_\_\_

|  |  |
| --- | --- |
| **Types of Numbers** | **Action** |
|  |  |
|  |  |

Equations: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Equations solved for y: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solution Ordered Pair: ( , )

The Numbers are: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Problem 7: Heads & Legs**

Total # of “Critters”: \_\_\_\_\_\_\_

Total # of Legs: \_\_\_\_\_\_\_

|  |  |
| --- | --- |
| **Types of “Critters”** | **# of Legs** |
|  |  |
|  |  |

Equations: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Equations solved for y: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solution Ordered Pair: ( , )

# of “Critters” \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Problem 8: How Much Did You Say?**

# of Types of Entertainment: \_\_\_\_\_\_\_

Total Costs of Entertainment: \_\_\_\_\_\_ , \_\_\_\_\_\_

|  |  |
| --- | --- |
| **Types of Entertainment** | **# of Item** |
|  |  |
|  |  |

Equations: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Equations solved for y: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solution Ordered Pair: ( , )

Cost of Entertainment: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Problem 9: Heads & Legs**

Total # of “Critters”: \_\_\_\_\_\_\_

Total # of Legs: \_\_\_\_\_\_\_

|  |  |
| --- | --- |
| **Types of “Critters”** | **# of Legs** |
|  |  |
|  |  |

Equations: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Equations solved for y: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solution Ordered Pair: ( , )

# of “Critters” \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Problem 10: How Much Did You Say?**

# of Types of Food: \_\_\_\_\_\_\_

Total Costs of Food: \_\_\_\_\_\_ , \_\_\_\_\_\_

|  |  |
| --- | --- |
| **Types of Food** | **# of Food Types** |
|  |  |
|  |  |

Equations: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Equations solved for y: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solution Ordered Pair: ( , )

Cost of Food Types: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Problem 1**

On a farm there are 65 animals, all cows and ducks. The 65 animals have a total of 224 legs. How many cows and ducks are there? Justify your answer.

**Problem 2**

Your teacher is giving you a test worth 100 points. The test has 30 questions. There are 3 point questions and 4 point questions on the test. How many of each type of question are on the test?

**Problem** 3

Janice has a collection of bugs. All of them are either spiders or ants. She has a total of 66 bugs. Altogether they have a total 484 legs. How many spiders and ants does she have? Justify your answer.

**Problem** 4

Megan has a coin purse that has only nickels and dimes in it. There are 28 coins with a value of $2.25. How many of each type of coin does Megan have?

**Problem 5**

On a farm there are 77 animals, all cows and geese. The 77 animals have a total of 200 legs. How many cows and geese are there? Justify your answer.

**Problem 6**

The sum of two numbers is 12. The difference of the same two numbers is 40. What are the two numbers?

**Problem 7**

Elizabeth has a collection of bugs. All of them are either fruit flies or tarantulas. She has a total of 75 bugs. Altogether they have a total of 526 legs. How many fruit flies and tarantulas does she have? Justify your answer.

**Problem 8**

At a local resale shop, three CDs and two DVDs cost $29. Two CDs and three DVDs cost $31. What is the cost of each?

**Problem 9**

On a farm there are 58 animals, all sheep and chickens. The 58 animals have a total of 180 legs. How many sheep and chickens are there? Justify your answer.

**Problem 10**

A group of students goes out for lunch. If two have hamburgers and five have hot dogs, the bill will be $8. If five have hamburgers and two have hot dogs, the bills will be $9.50. What is the cost of each item?