**Unit 4 Study Guide: Equations and Inequalities**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Part 1: One Step Equations**

**Identify the solution of each equation from the list given. Circle the solution.**

1. *s* + 12 = 17; 5, 6, 7
2. 44 = *t* − 10; 52, 53, 54
3. 4*r* = 40; 8, 9, 10
4. 28 ÷ *w* = 7; 3, 4, 5

**Solve each equation. Check your solution.**

1. 4 + *k* = 11 k = \_\_\_\_\_\_

1. 8*w* = 80 w = \_\_\_\_\_\_
2. *a* + 6 = 11 a = \_\_\_\_\_\_

1. 17 = 9 + *e* e = \_\_\_\_\_\_
2. 24 = j – *34* j = \_\_\_\_\_\_

1. *k* – 12 = 4 k = \_\_\_\_\_\_

1. 9*b* = 36 b = \_\_\_\_\_\_

1. 80 = 10*d* d = \_\_\_\_\_\_

1. m ÷ *9* = 5 m = \_\_\_\_\_\_

1. *g* ÷ 4 = 12 g = \_\_\_\_\_\_

**Write an equation for each situation and solve it.**

1. Fun Time Roller Coasters charges $6 per

ride. Joe spends $54 on rides.

1. Bonnie has 27 more cans than Jackie.

If she has 56 cans, write and solve an

equation to find how many cans Jackie has.

1. Cornelius is saving money to buy a jacket

 that costs $47. He has already saved $25.

Write and solve an equation to find how

 much more money Cornelius needs to save.

1. Keshav has $250 in his account. This is $75

 more than his brother Nalin has in his account. Write and solve an addition equation to find the amount of money in Nalin’s account.

**Part 2: Inequalities**

**Write an inequality for each sentence.**

1. More than 40,000 fans attended the opening football game at the University of Florida.
2. Her earnings were no more than $86.
3. A savings account balance is now less than $550.
4. The number of club members is at least 25.
5. The spring calf class at the cattle show is for

calves that weigh 825 pounds or less.

1. The minimum deposit for a new checking account is $75.

**Solve each inequality. Plot your solution on the number line under the inequality.**

1. 14n > 266



1. n + 17 < 35



1. 6x ≥ 138



1. 2 ≤ x + 2



1. b – 26 < 2



1. 18 ≤ r + 11



**Write the inequality shown by each graph:**



1. Inequality: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. Inequality: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. Inequality: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. Inequality: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. Inequality: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Part 3: Functions**

**Write an equation for each function table and**

**find the value for the missing output.**

1. **Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |
| --- | --- |
| **Input (*x*)** | **Output (*y*)** |
| 5 | 0 |
| 6 | 1 |
| 7 | 2 |
| 8 | 3 |
| *9* |  |

1. **Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |
| --- | --- |
| **Input (*x*)** | **Output (*y*)** |
| 2 | 14 |
|  | 16 |
|  | 18 |
| 8 | 20 |
| *10* |  |

|  |  |
| --- | --- |
| **Input (*x*)** | **Output (*y*)** |
| 4 | 0 |
| 5 | 1 |
| 6 | 2 |
| 7 | 3 |
| *9* |  |

1. **Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. **Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |
| --- | --- |
| **Input (*x*)** | **Output (*y*)** |
| 1 | 11 |
| 2 | 22 |
| 3 | 33 |
| 4 | 44 |
| *6* |  |

**Practice Free Response**

Mark has been earning money by mowing his neighbors’ lawns. His goal for the summer is to have $1,200 in his savings account. If he charges $20 per lawn each time he mows, how long will it take him to reach his goal?

Step 1: Fill in the function table below:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Lawns Mowed** |  |  |  |  |  |  |  |
| **Amount in Savings** |  |  |  |  |  |  |  |

Step 2: Write an equation to show the relationship between the number of lawns he mows and how much is in his savings account.

Step 3: How many weeks will it take Mark to reach his goal?