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

Expressions, Equations, and Inequalities Review Sheet

1. Simplify the following expressions.

|  |  |
| --- | --- |
| $y-\left(20y+1\right)$ + 5 | $$\frac{2}{5}\left(\frac{5}{2}x+1\right)$$ |
| $$4a-2(10a+2)$$ | $$\frac{1}{4}\left(x-12\right)+\frac{3}{4}x-6x$$ |

**2)** Solve the following equations.

|  |  |  |
| --- | --- | --- |
| 10-6v = -104 | 7(9+k) = 84 | -20 = -4x – 6x + 10 |

**3a)** Solve the equation 5(3x -2) = 120

**3b)** Write the steps to solve part A below:

**4)** Wendy is buying hand knitted hats for *d* dollars each for her four daughters and herself. She also wants to purchase a cute$3.00 flower for each hat. Her total order (without tax) is $75.00. Write an equation to find the cost of each hat?

Equation:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Work:

**5)** You want to buy a snake that costs $49 in 3 weeks. You already have $13 that you saved the first week. You saved the same amount for week 2 and week 3 . Write and solve an equation to find out the amount of money you saved in week 2 and week 3.

Equation:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Work:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**6)** Thomas received $14.00 for his birthday and a $5.00 i-tunes gift card. He wants to purchase songs for his IPod. How many $ 0.95 songs (*s*) can Thomas purchase if he uses his gift card and spends no more than the money he received? Find your solution by writing an inequality.

Inequality:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Work:

**7)** Erica has $50 to spend for food for a birthday party. The birthday cake will cost $17, and he also wants to buy 4 bags of chips. Write the inequality to find the most she can spend on each bag of chips. You do not have to solve this one.

Inequality:

**8)** Mr. Osterhout is putting trim around the edge of a circular merry-go-round that has a diameter of 15 feet. How much trim does he need to buy to the nearest tenth? (Hint: C = $π∙d$)

**9)** A trampoline has a radius of 9 ft. Calculate the area and circumference of the trampoline. Round to the nearest tenth. (Hint: C = $π∙d$ A = π $∙$ r $∙$ r)

**10)** A bicycle is on sale for $189.50. The sales tax rate is 5%. What is the total price?

**11)** Eric bought a canoe for $333.75. The sales tax was 5.25%. What was his total cost?

**12)** Rick bought 3 shirts for $18 each, 2 pair of socks for $3.99 a pair, and a pair of slacks for $45.00. The sales tax rate is 8.5%. How much did he pay?