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

Accelerated Math Midterm Review

Vocabulary to Know:

1. Integer- any whole number, positive or negative
2. Rational Number- a number that can be written as a fraction
3. Additive Inverse- what you add to a number to get zero
4. Absolute Value- a number’s distance from zero
5. Opposites- numbers that are the same distance from zero but in opposite directions
6. Commutative Property- says that you can add or multiply numbers in any order
7. Distributive Property- says that multiplying a number by a group of numbers is the same as multiplying separately
8. Equation- a statement that the values of two expressions are equal
9. Inequality- a statement that the values of two expressions are not equal
10. Solution set- the set of all values that makes a statement true
11. Algebraic expression- a mathematical phrase containing numbers, variables and operations
12. Ratio- shows the relative sizes of two or more values
13. Unit rate- the ratio of two measurements where one of the terms is 1
14. Proportion- says that two ratios (fractions) are equal
15. Constant of proportionality- the constant in a proportional relationship
16. Scale Drawing- a drawing that shows a real object with accurate sizes reduced or enlarged by a certain amount
17. Enlargement- when the scale drawing is larger than the original
18. Reduction- when the scale drawing is smaller than the original

All of the questions that are on the midterm, you have seen before. They have been on bell ringers, weekly reviews or both. Here are the questions again:

1) Yesterday, Emily’s bank account balance was -$54.31. Today the balance is $65.10.

What was the change in Emily’s account?

2) Gabby spent $200 at a thrift shop. She bought 3 rings for $21 each and spent the rest on 4 equally priced bracelets. How much did each bracelet cost?

3) Timmy is scuba diving while on vacation. Yesterday, he swam to feet. Today he plans to go 4 times deeper. How far is Timmy planning to dive today?

4) Simplify the expression: ?

 \*\*Hint: Don’t forget to distribute the negative!\*\*

5) Which expression is equivalent to ?

 A) C)

 B) D)

6) Evaluate the expression if

7) Which expression is equivalent to ?

 A) C)

 B) D)

8) Solve the following equation for x:

9) Which table shows a proportional relationship between x and y?

 A) C)

|  |  |
| --- | --- |
| x | y |
| 25 | 5 |
| 30 | 6 |
| 40 | 8 |

|  |  |
| --- | --- |
| x | y |
| 25 | 5 |
| 30 | 10 |
| 40 | 20 |

|  |  |
| --- | --- |
| x | y |
| 25 | 35 |
| 30 | 40 |
| 40 | 50 |

 B) D)

|  |  |
| --- | --- |
| x | y |
| 25 | 5 |
| 30 | 4 |
| 40 | 3 |

10) The graph below represents the number of miles Chris drove over time. What is the constant of proportionality?

11) A recipe calls for cup of milk for every cup of flour. How much milk is required for every cup of flour?

12) Solve the following equation for x:

13) Does the equation represent a proportional relationship? Write *Yes* or *No*.

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14) Claire’s monthly bank statement for the month of January was mailed to her house. It showed the following deposits and withdrawals:

If Claire’s balance in the account *started at $22.55*, what was the account balance at the end of the month?

15) Noah bought a stapler for $3.80 and 3 notebooks for *d* dollars each. He spent a total of $8.30. *Write and solve an equation* to determine the cost of each notebook.

16) Horace’s speedometer reads 60 miles per hour, but during a road test he finds that he was actually driving 58 mph. What is the percent error in Horace’s speedometer? Round to the nearest tenth.

17) A) Simplify the following expression:

 B) Factor the above expression. Be sure to use the *greatest* common factor.

18) Solve for x:

19) Which of the following represents the greatest percent error?

1. $10 underpayment on a $40 restaurant bill
2. Hope to make 35 baskets in a week and actually make 50
3. Actual
4. Incorrectly estimate a length of 125 feet to be 150 feet

20) The rectangular floor of a classroom is 36 feet in length and 32 feet in width. A scale drawing of the floor has a length of 9 inches. What is the width of the floor on the scale drawing?

21) Lea wants to save money on a new computer. At the store near her, the computer she wants is listed at a regular price of $400.00. On Saturday, the store will have a sale and discount the computer by 30%. Shoppers who buy a computer that same Saturday before 9 a.m. will also receive an additional 10% off the sales price. How much will Lea pay, without tax, when she buys the computer that Saturday before 9 a.m.?

22) A daycare serves apple slices to children at lunchtime. The table below shows how many apples were cut up and served each day of the week in relation to the number of children in attendance.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Monday | Tuesday | Wednesday | Thursday | Friday |
| Children | 24 | 30 | 28 | 26 | 19 |
| Apples | 18 | 20 | 21 | 18 | 10 |

Is there a proportional relationship between the number of children and the number of apples in this situation?