MasterMath

Algebra 1 Quarter 1 Exam
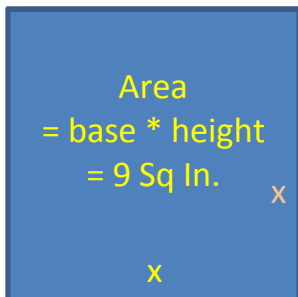
Name _____

Date _____

Closed Book; 60 minutes to complete
CUCC; You may use a calculator.

1. What is the value of x?

   Area
   = base * height
   = 9 Sq In.

   x

   x

   | 3" |

2. Translate the verbal phrase into an algebraic equation:
   The difference between 54 and the product of x and 3 is 24

   | 54 - 3x = 24 |

3. You can run the mile in 6.5 minutes, which is 45 seconds faster than your friend
   Fred can run the mile. Write an equation that you could use to determine the time it
   takes for Fred to run a mile (f).

   | f = 6.5 + .75 |

4. Evaluate this expression for x = 3.5

   $2(4x + 2)$

   | 32 |

5. Write an Equation or an Inequality to describe this situation:
   The Product of 3 and a number 6 more than x is at most 27

   | 3(x + 6) ≤ 27 |

6. Graph this Inequality: x > -4

7. The bike rack at school holds 16 bikes. There are currently 6 bikes parked in the
   rack. Write an Inequality that describes the number of additional bikes that could be
   parked in the bike rack (x).

x < 10
x ≤ 9

8. List 4 numbers that are members of the solution set to this inequality: x - 3 < -2
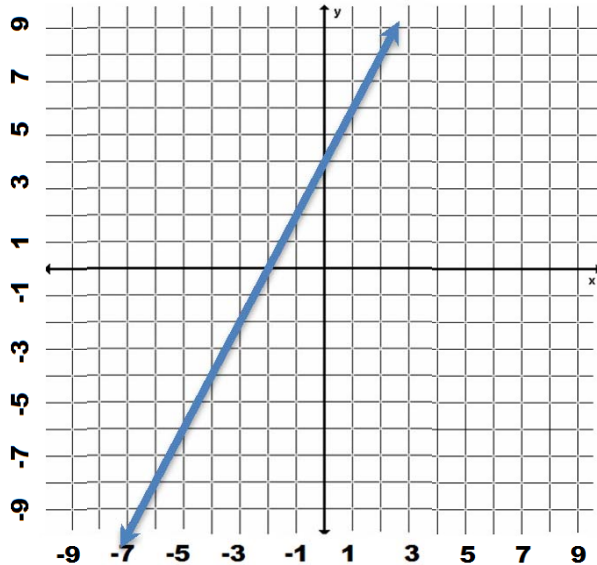
   | {0, -1, -2, -3, -4.....} |

9. Determine the Range

Function	Domain	Range
y = 3x + 5	0, 1, 6, 7	5, 8, 23, 26

y = 6 - x	-2, -1, 0, 1	8, 7, 6, 5

10. Create an input-output table for this function: y = 2x + 4.
    Use a domain of -3, -1, 1, 3

x	y
-3	-2
-1	2
1	6
3	10

11. Graph the function in Questions 10.

12. From this set of numbers, which is not a rational number:
    3, -8, √4, √2, .32665

$\sqrt{2}$

13. Five skin divers each attempt to reach a deep reef in the Florida Keys. Their depths in feet below sea level were as follows: -28, -37, -18, -45, -62. What was the mean depth reached?

-38

14. Are these Equivalent Expressions?
    y = 7x - 22   -3(6 - 2x) - 4 + x = y

yes

15. Combine the Like Terms to simplify this expression:
          y = 3x - 4 + 2x + 8

y = 5x + 4

16. Translate to an algebraic equation:
    A bee colony produced 4.68 pounds of honey, but bears ate 1.98 pounds of it. How much honey remains?

h = 4.68 - 1.98

17. Is this number rational: .23638749268832........

no

18. Is this number rational: 3.652458

yes

19. The temperature was pretty cold last week in Deluth. Based upon this table, what was the mean minimum temperature?

Number of Days	1	3	3
Minimum Temperature	-3	-9	2

-3.43

20. "x" is 25 less than 45. Write an equation that describes this situation, and solve for "x".

Equation	x = 45 - 25
x =	20

21. Jay's Banana Restaurant can purchase bananas for $.25 each. If Jay spends $43.50 for bananas, how many bananas does he purchase (b)?

Equation	b = 43.5/.25
b =	174

22. Solve for x

2(x+3) = 4x	x = 3
2.5x - 3(x+1) = 12	x = -30
6x + 3 - 4x = 4x + 5	x = -1

23. You have quarters and dimes that total $2.55. The number of dimes is 8 more than the number of quarters. Write an equation that will allow you to determine both the number of dimes and the number of quarters.

Equation	dimes	quarters
2.55 = .1(q+8)+.25q	13.0	5

24. You can get tickets for the league Championship Game from a ticket broker for $45 per ticket, plus a handling charge of $3 per ticket, and a processing fee of $15 for the entire order. You pay $399.00. How many tickets do you purchase?
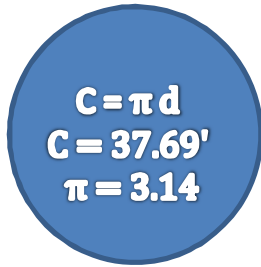
8

25. Ronice's office recycled a total of 12 kilograms of paper over 3 weeks. How many weeks will it take Ronice's office to recycle a total of 20 kilograms of paper? Assume the relationship is directly proportional.

5

26. Solve for d

$$C = \pi d$$
$$C = 37.69'$$
$$\pi = 3.14$$

12

27. After completing 6 laps of the race, the runner had finished 40% of the total race. How many laps comprised the total race?

15