MasterMath

6th Grade Final Exam

Name _____

Date _____

1. **Please convert the fraction to a decimal, or the decimal to a fraction:**

fraction	decimal
6 2/3	6.667
1/8	.125

fraction	decimal
8/25	.32
1 1/4	1.25

2. **When you convert 5/6 to a decimal, is it a repeating decimal or a terminating decimal?**

> repeating

3. **The formula for the area of a triangle is one-half x base x height (1/2 x b x h). Find the area of a triangle with a base of 16 cm and a height of 12 cm.**

> 96 sq cm

4.

You are going on a trip to Mexico, and you want to convert your dollars (d) into pesos (p). Your bank tells you that the exchange rate is 11.5 pesos for one dollar. You have $500 dollars. How many pesos can you get for $500? Write a formula, then solve.

formula	solution
d = 11.5p	5750

5. **You are now 54" tall. You have been growing 1/4" per month. Write an expression to predict how tall (H) you will be after "x" months.**

> H = 54 + .25x

6.

You have been adding 5 friends ("F") per month on Facebook. You now have 12 friends. Write an expression to predict how many friends you'll have after "x" months.

> F = 12 + 5x

7. **Solve:** $3^2 - (5 + 2) =$

> 2

8. **Will y get larger or smaller as x increases: 6 - x = y**

> smaller

9. **Complete the table:**

Algebraic Expression	Numbers	Variables	Operations
2y - 6	2,6	y	multiplication, subtraction
3b + 9	3, 9	b	multiplication,addition

10. Use compatible numbers to estimate the answer

4/7 x 300 | 150 | Is your estimate larger or smaller than the actual answer? | smaller

602 / 300 | 2 | | smaller

11. You shoot 806 free throws, and you make 1/4 of them. Estimate how many free throws you make.

| 200 |

12. You have 8 cups of flour. It takes 1/3 cups of flour to make a cookie. How many cookies can you make?

| 24 |

13. The table below shows the portion of your allowance you spend on different items. How many times more do you spend on movies than you spend on snacks?

Expense	Portion of Allowance
movies	1/4
snacks	1/8
others	1/32
music	3/32
savings	1/2

| two |

14. McDougal's Burgers sells quarter pound burgers. They start the day with 75 pounds of hamburger meat. How many burgers will McDougals be able to make?

| 300 |

15. Mom throws a party for you and 4 of your friends. She spends $15 on food. How much does she spend per person (x)?

expression	solution
x = 15/5	$3.00

16. Write an expression and evaluate. x = 3, y = 6

x more than the product of a number y and 2.

expression	solution
x+2y	15

17. Find the product and simplify

| 4/5 x 1/3 | 4/15 | | 1 1/8 x 1/3 | 3/8 |

18. Your Dad's CD collection has 72 CD's. 1/3 of them are by U2. How many U2 CD's does your Dad have?

| 24 |

19. 1/3rd of the 45 students in a math class are boys. Among the boys, 2/3rds are taller than 5'. How many of the boys are taller than 5'?

| 10 |

20. True or False: Does A = B?

A	B	equal?
6 + 8	8 + 6	true
6 - 8	8 - 6	false
5 + x	x + 5	true

A	B	equal?
3 / (5 / 1)	(3 / 5) / 1	false
(8 - 6) - 1	8 - (6 - 5)	false
3 * x	x * 3	true

21. Simplify the expression: 8 + 3x + 2x + 4 - 12

5x

22. Simplify thie expression: 3(6 - x) + 22(x + 1)

40+19x

23. Write an expression and simplify: 2 times the sum of a number (x) plus 3

2x + 6

24. In 2009, *YouTube* was visited by .12 billion viewers. *Hulu* that year had .038 billion viewers. How many times larger was *YouTube*'s viewer count than *Hulu*'s?

3.158

25. Place these numbers in order from smallest to largest:

	6/7	13/14	.875	88%	3/4
convert	.857	.929	.875	.88	.75
order	2	5	3	4	1

26.

Your band is starting to get a lot of offers to play at parties and dances, where you make $25 to play for an hour. Two of your friends have said they'd be your manager. Both would do great jobs. Mattie wants a fee of 15% to book your shows. Ted says he'll do it and keep $5 of the $25. Which one is charging you more?

Ted

27. Find the percent of the number:

%	Number	Answer
45%	110	49.5
162%	600	972

28.

Bojangle County had 15,000 acres of wetlands in 1950. Today, the amount of wetlands has decreased by 37%. How many acres of wetlands are in Bogangle County today?

9,450

29. There are 25 students in the class. The ratio of boys to girls is 3:2. How many boys are in the class?

15

30. Both you and your sister have a collection of 120 marbles. All the marbles are either red or blue. You sister has a ratio of red to blue marbles of 2:3. You have a ratio of red to blue marbles of 3:5. Who has the most red marbles?

sister

31. This table shows the number of hours worked by employees of Fred's Furs. Calculate the mean, median, mode and range for this data set.

Mean	Median	Mode	Range	Hours Worked	Number of Employees
8	8		2	7	5
				7.5	4
				8	7
				8.5	6
				9	5

32.

The radius of the rear tire of a truck is 22". If the tire is rotating at a constant speed of 60 revolutions per minute, how may feet will the truck travel in one minute?
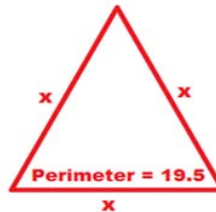
690.8'

33. What is the perimeter of this semi-circle?

12.85'

5'

34. Write an equation, and solve for x:
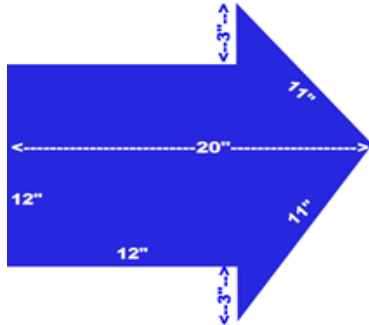
6.5

x   x
Perimeter = 19.5
x

35.

Half of your friends have brown hair. One-third of your friends have black hair. The rest have either yellow or red hair. What fraction of your friends have yellow or red hair?

1/6

36. What is the area of the arrow?

216 sq in

37. Solve this inequality: $3x + 12 > 15$

x > 1

38. Solve this inequality, and then graph your solution: $5x < 15$

x < 3

39. Write an Inequality to describe this sentence, and then solve the Inequality:

125 is no less than 5 times a number z

expression	solution
125 ≥ 5z	25 ≥ z

40.

Create an Input-Output Table for this function. Use -3, -2, -1, 0, 1, 2, 3 as your domain.

$y = 4x - 20$

x	y
-3	-32
-2	-28
-1	-24
-0	-20
1	-16
2	-12
3	-8

41. Write an equation for the function shown by the table.

y = x - 6

x	y
-1	-7
0	-6
1	-5
2	-4
3	-3

42. Graph this data. Does the graph represent a linear function? Write an equation for the function.

x	y
0	5
1	7
2	9
3	11
4	13
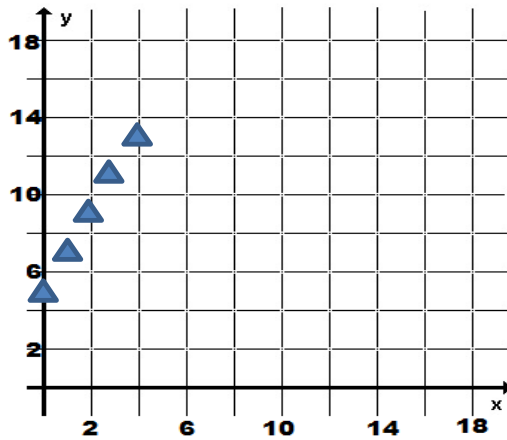
linear?	equation?
yes	y = 5 + 2x

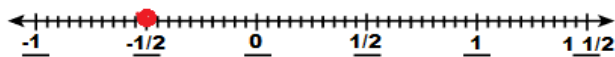**43.** Write this equation in function form: 3x + y = 16

f(x) = 16 - 3x

44.

Write a function that describes this situation: The imput plus three equals half the output.

f(x) = 2x + 6

45. Solve this Inequality: 1.8 + x < 2.6 - 5.5

x < -4.7

46. What is the Absolute Value of the number represented on this number line?

1/2

47. What Quadrant is this point in: (-3, 4)

2

48. If Point 1 is in Quadrant 3, and Point 2 is in Quadrant 4, which point has an x with the higher value?

Point 2