MasterMath

Closed Book; 45 minutes to complete

CUCC

1. **Convert these rational numbers to decimals.**

number	equivalent
4/5	.8

number	equivalent
-6 1/8	-6.125

number	equivalent
25/20	1.25

2. **Write these decimals as a fraction or mixed number in simplest form.**

decimal	mixed
.75	3/4

decimal	mixed
3.6	3 3/5

decimal	mixed
1.37	1 37/100

3. **Joe had 6 hits in 14 times at bat. Joshua had 16 hits in 40 times at bat.**

Joe

4. **Your recipe for cookies requires 2 5/8 cups of flour. You want to make a**

yes

5. **You and your friends are doing better in track, as shown by the changes in**

-1.45

Friend	Improvement
Jane	-2.15
Mary	-1.22
Estel	-.75
Sophia	-1.68

6. **How many .75 pound bags of sugar can be made from a 6 pound bag of**

8

7. **Assume a = -3, b = 2, and c = -5. Solve this expressions: (a/b) * c**

   (in decimal format)

7.5

8. **A scuba diver descends 60 feet in four minutes. What integer represents**

   (in decimal format)

15

9. **Find the next 2 numbers in the pattern: -4, 12, -36,.....**

108	-324

10. **Two integers, a and b, have a product of 20. What is the least possible sum**

-21

11. Complete these statements with either <, >, or =:

	<, >, or =	
2	<	-$\lvert$-5$\rvert$
-$\lvert$-42$\rvert$	>	25
$\lvert$-25$\rvert$	=	25

12. Order these Integers from least to greatest:

6, -55, $\lvert$-22$\rvert$, $\lvert$-75$\rvert$, 16, $\lvert$-1$\rvert$, $\lvert$12$\rvert$

-55, 1, 6, 12, 16, 22, 75

13. What is the slope of this line?   (in decimal format) | 0.57 |
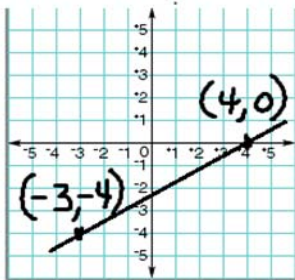
14. What is the slope of the line running through these points: (6, -5), (-3, -8)

(in decimal format) | .33 |

15. Your family took a trip to Colorado. On the 1st day, you traveled 450 miles

46.9

16. You can buy a large, 32 oz bottle of orange juice for $4.80, or a smaller, 18

(dollars per oz)

size	unit rate
18 oz.	.20
32 oz.	.15

17. Find the unit rate: 195 miles on 15 gallons of gas

Rate	What	per	What
13	miles	per	gallon

18. Solve for x: 16 + x = 29

13

19. The perimeter of this triangle is 29". Two of the side have equal lengths of

11

20. Solve for z: 3z = 36

12

21. Two-thirds of the households in your town subscribe to the paper. The

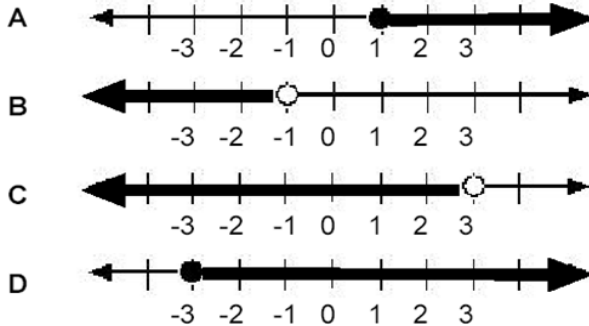| 180 |
|---|

22. A number divided by ⅛ is 1/16. What is the number?

| 1/2 |

23. You are 3/4 as tall as your brother. You are 54" tall. How tall is your

| 72 |

24. Which graph shows the solution to 2 - 2x > 0 ?

| A |

A -3 -2 -1 0 1 2 3

B -3 -2 -1 0 1 2 3

C -3 -2 -1 0 1 2 3

D -3 -2 -1 0 1 2 3

25. Solve this inequality: 1/2x + 3 < 19

| x < 32 |

26. There are 50 questions on the test and you need to get an 80%. How many of the 50 questions do you need to get correct?

| 40 |

27. You had 25 at bats, and your batting average is .400. How many hits did you have?

| 10 |

28. A single batch of your mother's recipe for salsa calls for 3 tomatoes, 1/4 cup cilantra, 1/2 onion, and spices. Your having a party and need 5 batches of salsa. How many cups of onions do you need?

| 2.5 |

29. Solve for x: 3x - 6 = 30

| 12 |

30.
The school football team beat their rivals last weekend. They gained 250 yards rushing the ball. Fred gained twice as many yards as Mike. The rest of the team's runners gained 40 yards. How many yards did Mike gain?

| 70 |

31. You plan to make a vegetable garden that is 16' long by 12' wide. You have 66' of fencing. How much wider could you make your garden and still have enough fencing?
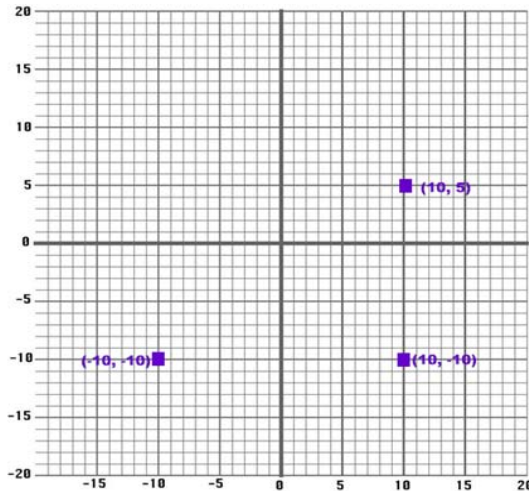
| 5' |

32. The temperature at 10AM in Fairbanks was -12˚. Over the next 6 hours, the temperature increased by 25˚. What was the temperature at 4PM?

13

33. You've saved up $10, but want a dress that costs $35. Your Mother agrees

no	10

34. Three corners (or vertices) of a square are shown in this figure. What are

(-10, 5)

(10, 5)

(-10, -10)   (10, -10)

35. What ordered pair is 4 units left and 2 units up from (-2, 4)?

(-6, 6)

36. Two points on a line are (2, 2) and (-3, -3). Is (4, -4) on the line?

37. Are these situations proportional?

no

1. $65 for 5 hours
2. $115 for 9 hours

38. You had 16 hits in 40 times at bat. Your brother had 12 hits in 30 times at

yes

39. Two triangles have these dimensions. Are they proportional?

no

Triangle	height	base
1	10	15
2	15	20