MasterMath

Closed Book; 60 minutes to complete; show units in answers; show work for partial credit.

CUCC

1.

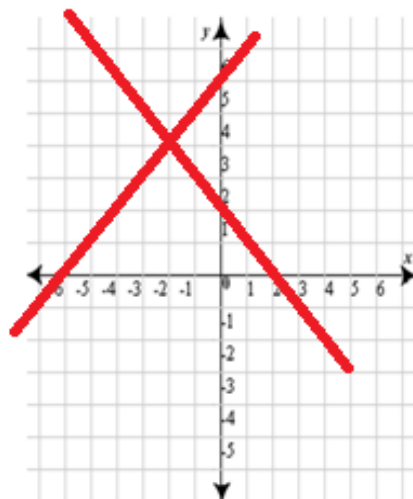|	Equation 1	Equation 2	Find an ordered pair that solves this pair of equations
818	x + y = 12	y = x + 2	(5, 7)
	2x + 5y = 20	y = x + 3	(5/7, 3 5/7)

2. You have 8 coins, and all are either nickles or pennies. You have a total of 16 cents. How many of each coin do you have?

818

nickles	pennies
2	6

3. Graph these two equations to solve for x: y = x + 6; y = -x + 2

818

-2,4

4. Carlos spent $3.60 for stamps to mail packages. Some were 30¢ stamps and the rest were 20¢ stamps. The number of 20¢ stamps was 2 less than the number of 30¢ stamps. How many stamps of each kind did Carlos buy?

818

.20	.30
6	8

5. A test has twenty questions worth 100 points. The test consists of True/False questions worth 3 points each and multiple choice questions worth 11 points each. How many true - false questions are on the test?
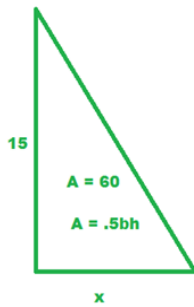
818

15

6. Solve for y: 2x + y = 2z

814

y = 2z - 2x

7. Solve for x

814

$$\boxed{8}$$

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     /|
    / |
15 /  |
  / A = 60
 / A = .5bh
/_____|
    x
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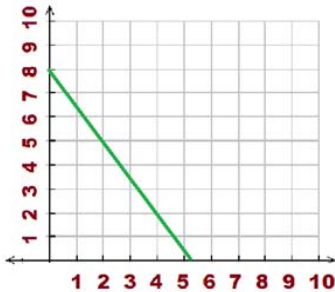
8. A farmer has 160 acres planted. 1/4 is soy beans (s); he has twice as much soy bean planted as corn (c); and the rest is tomatoes (t). How many acres of tomatoes does he have planted?
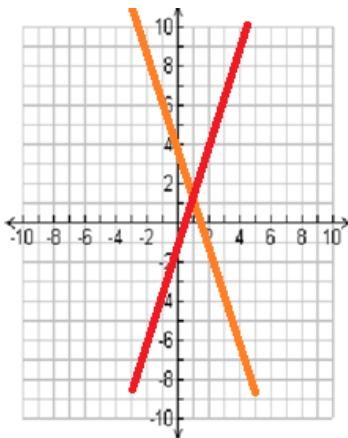
814

$$\boxed{100}$$

9. Find the slope:

816

$$\boxed{-1.5}$$

10. Line A has a slope of -3; Line B has a slope of -3. Are they parallel?

816

$$\boxed{\text{yes}}$$

11. Draw a line with a slope of 3, and another with a slope of -3. Make both lines go through point (1, 1).

816

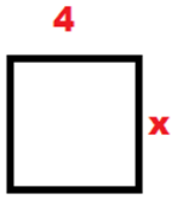
12. Solve for x: 3x + 5 = 2x - 6

813

$$\boxed{-11}$$

13.

The perimeter and the area of this shape are equal. What is the value of x?

813

4

4

x

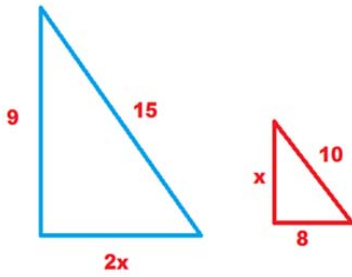**14.** The perimeter of the larger triangle is 150% of the perimeter of the smaller triangle. What is the value of x?

813

6

9   15
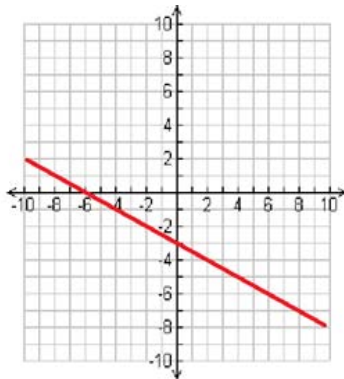
10

x

8

2x

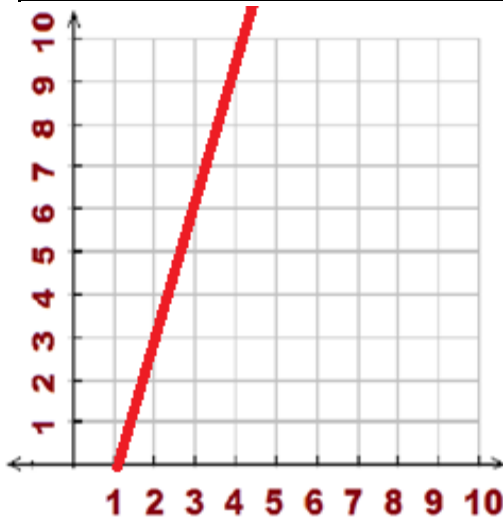**15.** Write the equation for the line below.

817

y = .5x - 3

16. What is the slope and the y intercept for the line that represents this equation: 6x + 3y = 15

817

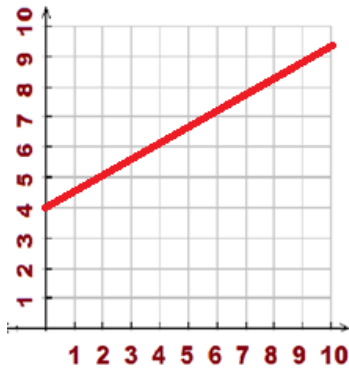| slope	y intercept
-2	5

17. Create a table and then graph this linear equation: y = 2x - 3

815

x	1	2	3	4	5
y = 3x - 3	0	3	6	9	12

18. A taxi charges (T) $4 plus $.50 per mile. Create an equation to determine what the taxi charge would be for any miles traveled (m). Create a table showing what the cost would be for 1mile, 3 miles, 5 miles, 7 miles and 9 miles. Graph the data in this table.

815

m	1	3	5	7	9
T = 4 + .5m	4.5	5.5	6.5	7.5	8.5

19. Solve these equations for the variable.

811

4p - 6 = 42	12
2z + 5z - 15 = 13	4
48 = 6z - 12	10
16 - 3a = 22	-2

20. You have dinner at Louie's and the total comes to $11.50. You ordered lasagna and a salad. The salad cost $2.50, and you left a tip of 15% of the bill. How much was the lasagna?

811

7.50

21. Last year, on average, 625 people attended each basketball game. This year, so far you have played 3 games and the attendance was 560, 640 and 675. How many people need to see the 4th game to reach an average attendance of 625 for the 4 games?
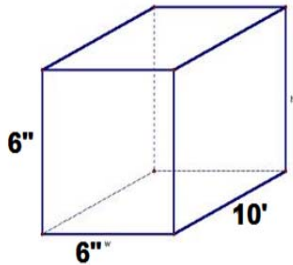
811

625

22.
What are the dimensions of this rectangular prism in centimeters? (1" = 2.54 cm)

814a

15.24 x 15.24 x 25.4

6"

10'

6" w

23. Your car's gas mileage is 28 miles per gallon. What is the gas mileage in kilometers per liter? (1 mile = 1.61 km; 1 gal = 3.785 liters)

814a

11.91 km/l

24. Please make the following conversion

814a

measure	to	conversion factor	answer
40 lbs	kg	1 lb = .454 kg	18.16
7 minutes	seconds		420
12 liters	gallons	1 liter = .264 gal	3.168
25 miles	km	1 m / 1.61 km	40.25

25. You have a picture which you want to frame. The picture is 24" wide. You have a frame that is 58 cm wide. Will the picture fit in this frame? (1" = 2.54 cm)

814a

no