

MasterMath

7th Grade Quarter 2 Exam

Name _____

Date _____

Closed Book; 60 minutes to complete; show units; show work.

CUCC

Conversions between Systems of Measure

When converting from Customary to Metric, use these approximations.

1 inch = 2.54 centimeters

1 foot = 0.305 meter

1 mile = 1.61 kilometers

1 cup = 0.24 liter

1 gallon = 3.785 liters

1 ounce = 28.35 grams

1 pound = 0.454 kilogram

When converting from Metric to Customary, use these approximations.

1 centimeter = 0.39 inch

1 meter = 3.28 feet

1 kilometer = 0.62 mile

1 liter = 4.23 cups

1 liter = 0.264 gallon

1 gram = 0.0352 ounce

1 kilogram = 2.204 pounds

1. Please convert these measures

Customary	Metric
8 pounds	kg
32.8 feet	meters
inches	35.56 cm
6 gal.	liters
miles	4.83 km

2. Can you pour all the water from a 4 liter bottle into a 1 gallon bottle?

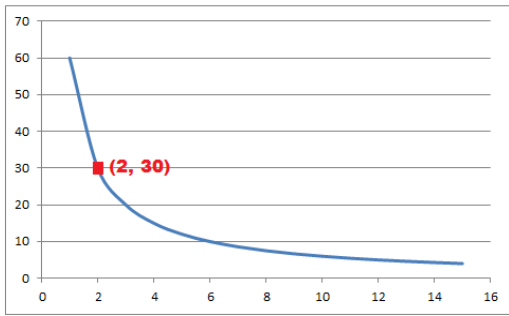
3. Do x and y show Direct Variation?

x	y
3	9
2	6
8	24
16	48

4. Indicate whether these equations describe a Direct Variation. You may need to manipulate the equation to put it into standard format.

Equation	Direct Variation?
$10y = 4x$	
$y = 2x + 6$	
$b = 3a$	
$.6n = 5m$	

5. This graph shows an Inverse Variation. Create an equation that relates y and x .



6. Do x and y have a Direct Variation, or an Indirect Variation?

x	16	32	28	400
y	4	8	7	100

7. Write an equation that describes this Inverse Variation

x	45.0	22.5	15.0	11.25
y	1	2	3	4

8. Please fill in the blanks. Round decimals to 3 decimal places. Round percentages to 1 decimal place. Simplify fractions.

%	Decimal	Fraction
	0.458	
		3/5
57.6%		
		19/100

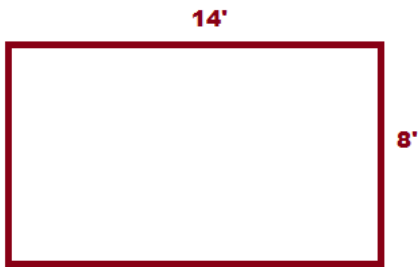
9. You got 75% or the questions correct on the last math test. You got 36 questions correct. How many questions were on the math test?

10. There was 6% sales tax added to your purchase price for the dress. With tax, you paid \$58.30 for the dress. What was the pre-tax price?

11. Determine the % Increase or Decrease. Round to one decimal place.

Value	New Value	% Increase	% Decrease
25 frogs	125 frogs		
\$1.25	\$2.25		
1/4	1/2		

12. We increase the dimensions of this rectangle by 150%. What is the perimeter of the new rectangle?



13. A number increases by 20% after 1 year, then decreases by 20% after the 2nd year. Will the new number be less than, equal to or smaller than the original number?

14. You paid \$165 for a model plane that was normally \$200. What was your Discount Rate?

15. Before school started in the fall, Joe's Books was selling *Math Madness* textbooks for \$49.95, with a 30% discount. After school started, they put the books on sale for 70% off the sales price. Are the books now free? If not, how much would a copy of Math Madness cost you after both discounts?

16. 1. Find the Price, rounded up to the nearest penny

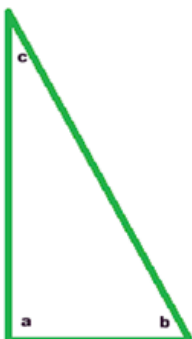
Original Price	Discount	Sale Price
\$1,655.00	18%	
\$7,200.00	12%	

Wholesale Cost	Markup	Retail Price
\$75.00	25%	
\$165.00	8%	

17. Figures A and B are similar two dimensional figures. Fill in the blanks.

Figure A height	Figure B height	Figure A perimeter	Figure A area	Figure B perimeter	Figure B area
12	18	48	144		
6	15	24	36		
10	1	32.4	50		

18. Angles a, b and c are the same on each of these triangles. Are the triangles similar?

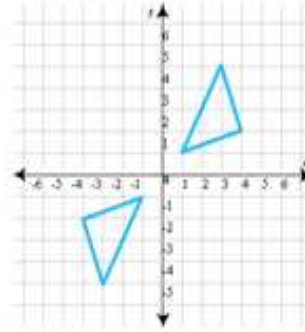
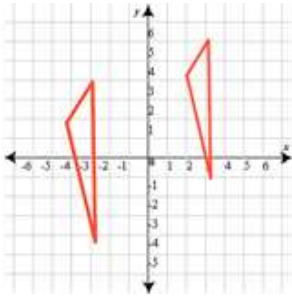


19. 1. Please fill in the blank

Scale	Dimension on Model	Actual Dimension
4 cm per meter	6 cm	
1/2" = 100'	4"	
1" = 7 yards	5.75"	

20. The architect's drawing of the house is at a scale of 3/8" per foot. On the scale drawing, the garage is 7.5" deep. How deep is the actual garage?

21. What type of transformations are shown here?

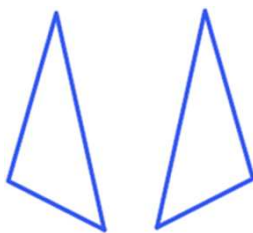


22. The coordinates of Vertex A of Triangle A are (6, -5). I translate Triangle A, and the new coordinates of Vertex A in A's Image, Triangle B, are (8, -10). Vertex B of Triangle A has coordinates of (8, 6). What are the coordinates of Vertex B in Triangle B?

23. Find the new coordinates after reflect around the x axis

a	a'	b	b'	c	c'
(3, 2)		(-4, -2)		(6, 7)	

24. These figures were reflected around the x axis. If vertex A has coordinates of (6, 5), what are the coordinates of vertex A'?



Results						
%	?s	# of ?s	Wrong	Concept		
	1,2	6		Converting Measures between Systems		
	3,4	5		Direct Variation		
	5-7	3		Inverse Variation		
	8-10	6		Percent Equation		
	11-13	5		Percent Increase and Decrease		
	14-16	6		Markups, Discounts, Simple Interest		
	17-18	7		Perimeter and Area of Similar Figures		
	19- 20	4		Finding Unknown Measures in Similar Figures		
	21 - 22	3		Scale Drawings		
	23-24	4		Transformations		
		49		Total		