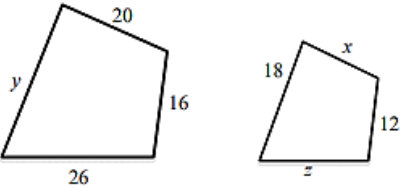


Division N

		Answers	Score
1.	Write 3,500,000 in scientific notation.	3.5×10^6	
2.	What is the missing number in this geometric sequence? 1, 6, 36, ____, 1296	216	
3.	The square root of 89 lies between two consecutive integers. What is the sum of those two integers?	19	
4.	Martha rolls two cubical dice. As a reduced fraction, what is the probability that the sum of the two numbers she rolls is 8?	$\frac{5}{36}$	
5.	Last year I ate 1500 jellybeans. This year I ate 1750 jellybeans. What was the percent increase in the number of jellybeans I ate? Answer as a mixed number percent.	$16 \frac{2}{3} \%$	
6.	A right triangle has a hypotenuse of length 13 inches and one leg of length 5 inches. How many inches is the other leg?	2 [inches]	
7.	What is the greatest prime factor of one hundred and two?	17	
8.	What is the slope of the line that goes through the points (1,3) and (-2, 4)	$-\frac{1}{3}$	
9.	Given that $Ax + B = C$, solve for x in terms of A, B, and C.	$\frac{C - B}{A}$ or $\frac{C - B}{A}$	
10.	The product of two prime numbers is 247. What is the positive difference between these two prime numbers?	6	
11.	What is the volume, in cubic units, of a cylindrical soup can with a radius of 2 units and a height of 3 units? Express your answer in terms of π .	12π or 12π	
12.	The ratio of two complimentary angles is 2:1. What is the larger angle in degrees?	60 [degrees]	

Division N

13.	What is the product of 0.5% of 500 and 5% of 50?	6.25	
14.	The price one gallon of gas was \$3.50. The price went up by 20%, and then down by 10%. What is the new price in dollars of a gallon of gas?	[\$]3.78	
15.	As a common fraction, what is the ratio of $\frac{y}{x}$ if $2x = 8y$?	$\frac{1}{4}$	
16.	What is the least common multiple of 36 and 99?	396	
17.	Two similar polygons are shown. Find the sum of the values of x, y, and z. If your answer is not a whole number, give it as a reduced fraction.	$117 \frac{1}{2}$	
			
18.	Find the value of: $\left((3+1)^2 + (5-3)^2 \right)^2 - (6+2)^2 - \left((3+3)^2 + (0-1)^2 \right)$	299	
19.	Find the value of x if $4x - 29 = x - 8$.	7	
20.	What is the y-intercept of a line passing through the following points? $\left(-\frac{5}{4}, \frac{2}{3}\right)$ and $\left(-\frac{2}{3}, \frac{1}{5}\right)$	$-\frac{1}{3}$	
21.	If $\frac{x+10}{x} = 3$, then, as a common fraction, what is the value of $\frac{x^2-1}{x^2}$?	$\frac{24}{25}$	
22.	What is the measure, in degrees, of the smaller angle made by the hands of a clock at 11:30 am?	165 [degrees]	
23.	Express $2.\overline{02}$ as a fraction in simplest form.	$2\frac{2}{99}$	
24.	Evaluate: $12! \div 10!$	132	

25.	How many positive x satisfy the inequality: $x^3 \leq 51$?	3	
26.	Evaluate $11 - 2\sqrt{26 - 10x^2}$ when $x = -1$	3	
27.	The average (arithmetic mean) of my number and your number is X . The average of X and your number is 28. If my number is 4, what is your number?	36	
28.	Anca has twice as many apples as Bianca. If Anca took X more apples, she would have 83 apples. If Bianca took X more apples, she would have 49 apples. What is X ?	15	
29.	What is the cube root of sixty-four?	4	
30.	If a car is driving at an average rate of fifty miles per hour, how many minutes will it take the car to travel thirty-five miles?	42 [minutes]	
31.	What is the value of x ? $\frac{2}{3}x - \frac{1}{4} = \frac{5}{6}x - \frac{5}{4}$	6	
32.	If a is 160% of b and b is 50% of c , then what percent of a is c ?	125 [%]	
33.	A block of wood in the shape of a rectangular prism measured 10 inches by 6 inches by 1 foot. Lance cut this block into smaller rectangular prisms measuring 2 inches by 2 inches by 2 inches. What is the maximum number of smaller prisms he could get?	90	
34.	A number n , not necessarily an integer, is selected at random such that $-5 < n < 7$. What is the probability that $2 < n < 9$?	5/12	
TOTAL SCORE			

MATH CHALLENGE TOURNAMENT 2015

GRADE 7

Sprint Math

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FINAL SCORE:

KEY

Name: _____

Team#: _____

- Write your answers in this test booklet.
- Unit is not necessary. If you choose to label your answer, please make sure you write the correct unit. A correct answer with incorrect unit will be marked as an incorrect answer.

Correct answer: 1 point

Blank answer: 0 point

Incorrect answer: 0 point.