"Math Is Cool" Championships — 2020-21
4th Grade — March 24, 2021
Sponsored by: Avista Utilities

Individual Contest

Record all answers on the colored cover sheet. 35 minutes, 40 problems, ~92% of individual score.
No talking during this individual test. A 5-minute time warning will be given.

	Questions 1-30: 2 points each
1	What is the largest number in the following list: 79, 102, 322, 99, 250
2	What is the sum of 64 and 8?
3	$8 \times$ __ $= 56$ What number belongs in the blank?
4	What digit is in the tens place? 845,621.073
5	How many sides does a quadrilateral have?
6	How many lines of symmetry does this shape have?
7	Write this out as a single multi-digit number: five hundred sixty-four thousand, three hundred one. (Do not use a comma when entering your answer.)
8	A regular pentagon has sides of length 2 cm. What is the length of the perimeter in cm?
9	What is 2,900 minus 879?
10	What is the product when you multiply all the digits of 740.258?
11	What is the remainder when 522 is divided by 8?
12	How many minutes will have passed from the time shown on the clock to 3:52 PM on the same afternoon?
13	What is the numerator when you completely reduce the fraction 10/15?
14	What is 2021 rounded to the nearest 100?

15	Today is Wednesday. What day will it be 12 days after yesterday? Enter an integer as your answer, according to the following code: 1 = Sunday, 2 = Monday, 3 = Tuesday, 4 = Wednesday, 5 = Thursday, 6 = Friday, or 7 = Saturday.
16	What is the next prime number greater than 31?
17	What is the sum of the first three multiples of 7?
18	How many dollars is 50,000 dimes?
19	Izela is doing a science experiment that requires her to let the experiment cool for $4\frac{1}{4}$ hours. How many minutes is this?
20	Edwin is sorting his Beyblades. He has 3 blue ones, 4 red ones, and 5 silver ones. If he shares his Beyblades evenly with his neighbor, how many will Edwin have left?
21	Easton claims that he grows ¾ of an inch per week. At this rate, how many weeks will it take him to grow 15 inches?
22	What is the biggest counting number that can be put in the blank and the inequality will still be true? $$8 + 3 + \_\_ < 15$$
23	Alejandro buys a birthday present for his best friend and pays for it with a $20 bill. The cashier gives him back 3 one-dollar bills, 6 quarters, 12 dimes, 4 nickels and 10 pennies. How much did the birthday gift cost in dollars?
24	What is the sum of all the positive whole number factors of 51?
25	What is $\frac{4}{3} \div \frac{2}{9}$?
26	When Justine plays Among Us, she is an imposter 20% of the time and the rest of the time, she is not an imposter. If she played the game 460 times last year, how many times was she NOT an imposter?
27	Lauren is selling face masks. It costs her $3 in materials for each mask and she sells them for $7 each. After selling 20 masks, how many dollars has she made as a profit after deducting the cost of supplies?
28	How many ways can you rearrange the letters in the word COVID?
29	What is the next year that will use the same four digits as the year "two thousand twenty one"?
30	Two numbers have a sum of 36 and a difference of 22. What is the larger of the two numbers?

Challenge Questions: 3 points each

31	Solve for x: 2x + 13 = 41
32	A rectangle has an area of 60 sq. cm and a perimeter of 34 cm. How many centimeters is the longest side of the rectangle?
33	A new mathematical symbol @ is defined such that a@b = 2a – b. What would 9@6 equal?
34	When 9^{10} is multiplied out, what digit is in the ones place?
35	Kate has 6 boxes and some number of cookies. Whether she decides to use 2, 3, 4, 5, or 6 boxes to divide the cookies, Kate can always divide her cookies equally between the boxes. What is the minimum number of cookies Kate could have?
36	I have $100. First, I gave 40% of my money to Evie. Then, I gave 50% of my remaining money to Rithani. Finally, I kept 10% of what was left, and gave the rest to Andra. How many dollars did Andra receive?
37	Hagrid brought unicorns and 3-headed dogs to his *Care of Magical Creatures* class. If there were a total of 18 heads and 32 feet on the creatures Hagrid brought, how many unicorns are there?
38	Dane has a rectangular treasure box that he wants to decorate by covering all the outside surfaces with paper. What is the total surface area of paper in square centimeters that he would need to cover a box with dimensions 8 cm, 10 cm, and 25 cm.
39	To prepare for a Hawaiian luau, you need to cook a Kalua pig in the ground for 6 minutes for each pound that it weighs. You begin cooking a 97 pound pig at 5:15 AM. The luau is scheduled to start at 4:50 pm. How many minutes are there between the time the pig will be finished cooking and the start of the luau?
40	King Arthur had a circular 52-person table built. The table can seat King Arthur and his 51 knights equally spaced at 6 feet apart for social distancing. Each knight wears a mask with his seat number and King Arthur takes mask and seat number 1. The seats are numbered sequentially 1 through 52. Which mask number will the knight sitting in seat number 20 see directly across the table from him?