



## Speed Math 7th/8th

1	Evaluate: $5 + 5 \times 5 - 5 \div 5 \times 5$
2	How many positive integer factors does 12 have?
3	3 girls and 9 boys attend a math club meeting. What percent of the attendees are male?
4	If $a = 3$ , $b = 4$ , and $c = 5$ , what is the value of $a + b - c$ ?
5	What is the sum of 12 and 13?
6	Evaluate: $1 + 2 + 3 + 4 + \dots + 23 + 24 + 25$
7	Evaluate: $(5 + 5 + 5) \times 5 \div \frac{5}{5+5+5+5-5} - 5 - 5$
8	Which is greater: $3^4$ or $2^6$ ?
9	If Ben types 80 words per minute, how long will it take him to type his 320 word essay?
10	Simplify: $(\sqrt[4]{625})^{-2}$
11	Evaluate: $-6 + 9 - 5$
12	50 percent of 40 is the same as what percent of 100?
13	A circle has radius $\frac{x+3}{2}$ inches. If its circumference is $10\pi$ inches, what is its area?
14	Evaluate: $3346 + 2718$
15	What is the sum of the positive integer factors of 49?
16	If I take my favorite number, divide it by 7, subtract 6, multiply by 9, add 5, and then double it, I get 82. What is my favorite number?
17	What is the greatest perfect cube less than 2000?
18	What is the sum of the first 20 even positive integers?
19	What is the area, in square meters, of a circle with radius $\sqrt[4]{256}$ meters?
20	Evaluate: $10100 \times 9900$
21	If $3x + 2y = 9$ and $x + y = 4$ , what is the positive difference between $x$ and $y$ ?
22	Brian has 4 apples for every 3 pears and 5 mangos for every 2 apples. If he has 34 fruits total, how many pears does he have?
23	What is the area, in square units, of a rectangle with length 2 units and width 6 units?
24	18 is 60% of what number?
25	Evaluate: $6.55 + 1.545$ (Express your answer as a decimal.)

26	What is the perimeter, in units, of a rectangle with length 49 units and width 1 unit?
27	What is 35% of 40?
28	Evaluate: $\frac{2}{7} + \frac{3}{5}$
29	Solve for $\alpha$ : $209 = 3\alpha + 8$
30	If a point starts at coordinates (10, 10) and moves two units down and five units left, what are the new coordinates?
31	What is the area of an equilateral triangle with side length 2?
32	What is the measure, in degrees, of an interior angle in a regular pentagon?
33	Andrew has a CD with 8 songs on it. With his CD player on shuffle, in how many ways can he play each song exactly once?
34	(2, -3) is the midpoint between (1, 7) and (x, y). Find $x + y$ .
35	$4\pi$ units is the circumference of a circle. What is its radius?
36	$ 2x  = 6$ . What is the sum of all possible values of $x$ ?
37	What is the length of a diagonal of a rectangle with length 5 units and width 12 units?
38	What is the slope of the line $9x - 2y = 13$ ?
39	What is the distance between these two points: the y-intercept of $-3x + 4y = 12$ and the x-intercept of $6x + 8y = 24$ ?
40	In the atmosphere of the planet Newportopia, there are 6 grams of nitrogen per 7 cubic meters of air. How many grams of nitrogen are in 100 cubic meters of air?
41	What is the average (arithmetic mean) of the following set of numbers: {12, 0, -3, 1, 1, -2, 1, 65}?
42	It is exactly 1:57 PM as this test writer begins writing this question. This test writer is typing with only one hand because he is eating a steak with his other hand. Therefore he can only type at the speed of 10 words per minute. There are 63 words in this question. At what time did this test writer finish writing this question? ( <i>Round seconds, if any, to the nearest minute.</i> )
43	Find the greatest common factor of 3150 and 9009.
44	Find the least common multiple of 3150 and 9009.
45	How many even integers are there between, but not including, -1000 and 1000?
46	What is the sum of the integers between -5 and 9, inclusive?
47	Newport Math Club's supercomputer completes $2^{108}$ numerical operations per second. How many seconds would it take for the supercomputer to complete $2^{114}$ numerical operations?

48	When Michael and Kevin play chess, Kevin has a 67% chance of winning and there is an 8% chance that they tie. What are the odds against Kevin losing? ( <i>Express your answer as a simplified ratio in a:b form.</i> )
49	Evaluate: $7^3$
50	Convert 110101 base 2 to base 8.

**Thought you were almost done? Not so fast! Try tackling these! (evil laugh)**

51	Take the greatest prime factor of this question number, cube it, and give the sum of its digits.
52	Mr. Nonis gave his students a test on trigonometric identities. The resulting scores were 45, 26, 72, 38, 91, 27, 4, 10, 27, and 100. What is the probability that any given student scored above the average score? ( <i>Express your answer as a common fraction.</i> )
53	What is the sum of the first 4 odd, positive cubes?
54	In a club of 6 men and 6 women, how many ways can a committee of 4 men and 3 women be formed?
55	How many positive factors does 84 have?
56	Round to the nearest integer: $9001 \div 1337$
57	Evaluate: $\frac{1}{16} \times \frac{1}{8} \times \frac{6}{23} \times \frac{46}{2} \times \frac{8}{1} \times \frac{16}{1}$
58	Find the last digit of the following sum: $1! + 2! + 3! + 4! + \dots + 23! + 24! + 25!$
59	Find the sum of the period and amplitude of the function $f(x) = 3\sin\left(\frac{3\pi}{2}x\right) + 4$
60	What is the sum of the coefficients in the expansion of $(5a - 8b)^5$ ?