

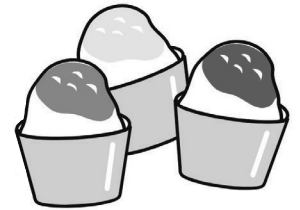


Warm-Up 3

51. _____ % What percent of the positive divisors of 2000 are perfect squares?

52. _____ questions If six MATHCOUNTS question writers can write 822 questions in one year, how many questions can one writer write in four years, assuming all writers work at the same rate?

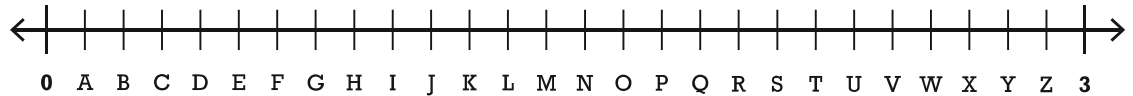
53. _____ combinations A shaved ice cart has 5 syrup flavors and 3 toppings. A medium shaved ice includes 2 pumps of syrup—either the same flavor twice or two different flavors—and at most 1 topping, which could also be none. How many different shaved ice combinations are possible?



54. _____ If $5x + 6 = 3x + 10$ and $ax - 4 = 0$, what is the value of a ?

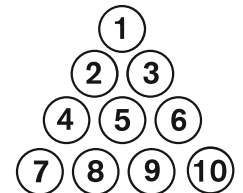
55. _____ miles Jimmy drove at 65 mi/h for 1 hour and 35 mi/h for some number of hours. If Jimmy's average speed during the trip was 45 mi/h, how many total miles did Jimmy drive?

56. _____ The letters of the alphabet are equally spaced on a number line between 0 and 3, as shown. What math word is represented by $\frac{1}{9}$, $2\frac{2}{3}$, 1 and $2\frac{1}{9}$, with letters in that order?



57. _____ What is the units digit of $2 + 2^0 + 2^{0+2} + 2^{0+2+5}$?

58. _____ Geo arranges the counting numbers in a triangular pattern: 1 at the top, 2 and 3 in the second row, 4, 5 and 6 in the third row, and so on. What is the sum of the first and last numbers in the seventh row?



★ 59. _____ What is the value of $\sqrt{20\sqrt{25}}$?

★ 60. _____ degrees The angles of a triangle form an arithmetic progression, and the smallest angle is 35 degrees. What is the degree measure of the largest angle of the triangle?