

Warm-Up 4

What is the value of $1 - 2 \div 3 \times 4 + 5$? Express your answer as a common fraction. In how many ways can the letters A, B, C and D be arranged so that no letter is adjacent to any letter that comes immediately before it or immediately after it alphabetically? In quadrilateral ABCD, the measure of angle A is half the sum of the measures of the other angles. What is the measure of angle A? Express your answer to the nearest integer. Right now, Christina is twice as old as Mark. In five years, she will be 50% older than him. How many years old is Christina now? What is the area of triangle XYZ with vertices X(0, 4), Y(0, 0) and Z(3, 0)? What is the sum of the expression $\frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16}$? Express your answer as a common fraction. Ben randomly draws 2 cards, without replacement, from a standard 52-card deck of playing cards. What is the probability that Ben draws 2 cards of the same rank (two, three, ..., queen, king, ace)? Express your answer as a common fraction. A stone is a British unit of weight equivalent to 14 pounds. After losing $1\frac{1}{2}$ stone, Jim is now 85% of his original weight. What is Jim's current weight, in pounds? Robin is thinking of a number. She asks, "If 29 added to 19 times my number equals 732, what is my number?" Euler's formula states that for any convex polyhedron, there are exactly 2 fewer edges than the number of vertices and faces combined. The snub cube is a convex polyhedron with

18 MATHCOUNTS 2019-2020

38 faces and 60 edges. How many vertices does the snub cube have?