



Warm-Up 5

71. _____ cm² Right triangle ABC has integer side lengths, with AB = 20 cm and AC = 25 cm. What is the least possible area of the triangle, in square centimeters?

72. _____ If x and y are integers, $x + y = 20$ and $\frac{x}{y} = 3$, what is the value of $x - y$?

73. _____ A numeric palindrome is a positive integer, not ending in 0, that reads the same forwards and backwards. For example, 3, 55 and 17071 are all palindromes. What is the least palindrome that is divisible by 12?

74. _____ feet In the capital of Mathlandia stands a building known as the Gauss Monument, which prominently features a regular heptadecagon (a 17-sided polygon). A scale model of the Gauss Monument is 3 feet tall, with one side of the model's heptadecagon measuring 2 inches. If the real heptadecagon has a perimeter of 510 feet, how tall is the actual Gauss Monument, in feet?

75. _____ What is the sum of $123_{\text{four}} + 1234_{\text{five}}$ written in base ten?

76. _____ The sum of the first 5 positive perfect squares is equal to the sum of the first n positive integers. What is the value of n ?

77. _____ integers How many positive three-digit integers have a hundreds digit and a units digit that are each either one more or one less than the tens digit?

78. _____ cupcakes It takes Cory 14 minutes to put frosting on 2 dozen cupcakes. It takes Dory 15 minutes to put frosting on 3 dozen cupcakes. If they work together to put frosting on 1 dozen cupcakes, how many of the cupcakes will Cory put frosting on?



★ 79. _____ What is the absolute difference between the mean and median of the five numbers 2, 5, 11, 14 and 23?

★ 80. _____ Garrett's passcode has four digits. He knows the digits are 2, 6, 8 and 7, but he cannot recall their proper sequence. What is the probability that he will enter the correct passcode on his first try? Express your answer as a common fraction.