# Warm-Up 5

71. _____ What is the value of $\left(2 + 3 + 4\right) \times \left(\frac{1}{2} + \frac{1}{3} + \frac{1}{4}\right)$? Express your answer as a common fraction.

72. _____ What is the least possible product of two-digit numbers AB and CD, where A, B, C and D represent distinct nonzero digits?

73. _____ What is the value of $\dfrac{2020^2 - 2012^2}{2017^2 - 2015^2}$?

74. _____ What is the absolute difference between one-half of 5 and one-third of 5? Express your answer as a common fraction.

75. _____ Let x be a positive number such that the distance between x and -3.8 on a number line is exactly two times the distance between x and 1.7. What is the value of x? Express your answer as a decimal to the nearest tenth.

76. _____ units³ How many cubic units are in the volume of a cube with side length 12 units?

77. _____ A rectangular lawn is mowed every five days. On each of these days, the lawn is mowed in one direction, but the direction varies from one mowing to the next in the following order: East-West (E-W), Northeast-Southwest (NE-SW), North-South (N-S) and Northwest-Southeast (NW-SE). If the lawn is first mowed E-W on Day 1, on Day 201 in which direction is the lawn mowed, E-W, NE-SW, N-S or NW-SE?

| E-W | NE-SW | N-S | NW-SE |
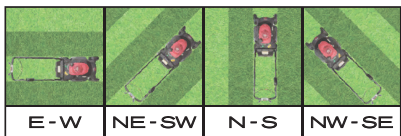
78. _____ pages Alastair's favorite book series has seven books containing 223, 251, 317, 636, 766, 607 and 607 pages. Montana's favorite book series has seven books containing 309, 341, 435, 734, 870, 652 and 759 pages. What is the absolute difference between the median numbers of pages in the books of Alastair's and Montana's favorite book series?

79. ____ : ____ Sonja can write three book reviews per hour before 10:00 p.m., and she can write one and a half reviews per hour between 10:00 p.m. and midnight. If Sonja starts writing reviews at 7:30 p.m., at what time will she finish writing the tenth book review?

80. _____ cups Logan feeds her collie 3 cups of dog food each day, and she feeds her beagle 12 cups of dog food each week. If Logan buys a bag of dog food containing 75 cups and feeds both dogs for two weeks, how many cups of dog food will be left in the bag?

Warm-Up 6

81. _____ What is the absolute difference between the two values of x for which $|x - 9| = 8$?

82. _____ What is the value of the expression $\dfrac{8! - 7 \times 7! + 6 \times 6!}{7! - 6 \times 6! + 5 \times 5!}$? Express your answer as a common fraction.

83. ___questions___ On a certain standardized test with 50 problems, 5 points were awarded for each correct answer, and 1 point was deducted for each incorrect answer. Alex answered all the questions on the test and scored a total of 184 points. How many questions did he answer correctly?

84. ___diagonals___ How many diagonals can be drawn in a decagon?

85. _____ What is the value of k in the arithmetic sequence $-13, -7, -1, k, 11$?

86. _____ If $d = 5 + c \times (7 + c \times (4 + c)) - (4 + c \times (4 + c))$, what is the value of d when $c = -1$?

87. ___degrees___ Convex quadrilateral WXYZ is inscribed in a circle. If $m\angle$XYZ = 54 degrees, what is the degree measure of $\angle$XWZ?

88. ___tennis balls___ Sports Depot sells tennis balls in cans of either 3 or 4 tennis balls each. What is the greatest number of tennis balls that Kaycee cannot buy from Sports Depot as an exact combination of these two types of cans?

89. _____ How much more than two-thirds of 25% of 36 is 50% of one-fourth of 64?

90. ___students___ There are 292 students in a math class, of whom 90 are freshmen, 80 are math majors and 145 are neither freshmen nor math majors. How many students in the class are freshman math majors?