



Warm-Up 8

111. _____ people At 8:00 a.m., the chairperson of the homecoming committee shared this year's theme with the three other committee members. Within an hour, each of those three committee members told three people who were not on the committee. Every hour after that, each person who had just been told within the previous hour then told three other people who had not yet been told. How many people knew the homecoming theme by the time the first lunch period started at 11:00 a.m.?

112. _____ If $a \blacktriangle b = |a - b|$, then what is the sum of all numbers x such that $(3 \blacktriangle x) \blacktriangle 8 = 2$?

113. _____ integers How many positive integers m are there such that the least common multiple of m and 150 is 300?

114. _____ words Carrick is learning to read. During his first lesson, Carrick read 50 words, and during each lesson thereafter, he read 10 more words than he read during the lesson before. If Carrick had one reading lesson each day for 30 days, what is the total number of words he read in 30 lessons?

115. _____ A standard deck of cards consists of cards numbered 2 through 10 plus a Jack, Queen, King and Ace in each of four different suits. In a particular card game, Jacks, Queens and Kings are each worth 10 points, Aces are worth 11 points and numbered cards are worth face value. Each of four players is dealt three cards, and the winner is the player with the greatest sum of cards of the same suit. If cards have been dealt to the four players as shown, and Austin then is dealt a card from those remaining in the deck, what is the probability that Austin has the winning hand? Express your answer as a common fraction.

AUSTIN	BAILEY	COOPER	DALLAS
8 ♦	Ace ♦	Ace ♥	King ♣
9 ♦	King ♦	3 ♥	9 ♣
?	3 ♠	Queen ♦	5 ♥

116. _____ If l , m and n are each distinct members of the set $\{2, -\frac{1}{6}, \frac{1}{3}, -3, 12\}$, what is the least possible value of $\frac{l \times m}{n}$?

117. _____ ways In how many ways can each of the digits 3, 5 and 7 be used exactly once to replace X , Y and Z to make the true inequality $0.XY < 0.Z$?

118. _____ For a list of eight positive integers, the mean, median, unique mode and range are 8. What is the greatest integer that could be in this set?

119. _____ Two numbers, x and y , each between 0 and 1, are multiplied. If the tenths digit of x is 1 and the tenths digit of y is 2, what is the greatest possible value of the hundredths digit of the product?

120. _____ units² Quadrilateral ABCD, shown here, is a 12×18 rectangle. Segments BF and AG bisect angles ABC and BAD, respectively, and intersect at E. What is the area of $\triangle EFG$?

