



Warm-Up 6

71. _____ When an integer is doubled and increased by 3, the result is 5 less than the square of the integer. What is the sum of all such integers?
72. _____ degrees Triangle ABC is isosceles with $AB = AC$ and $m\angle A = 30$ degrees. Side AB is extended to D so that $m\angle ACD = 90$ degrees. What is the degree measure of $\angle BCD$?
73. _____ games If the 15 teams in a soccer league each play eight games in a season, what is the total number of games played during the season?
74. _____ miles Laree notices that the current mileage on her car is a multiple of 1000 and is a perfect cube. She does some calculations and determines that she will have to drive another 4921 miles before the number of miles on her car is a perfect cube again. What is Laree's current mileage?
75. _____ units² Two lines parallel to the sides of a large rectangle divide the rectangle into four regions. The areas of three of the regions, starting in the upper right corner and going counterclockwise, are 24, 40 and 15 units² as shown (not to scale). What is the area of the large rectangle?
- | | |
|----|----|
| 40 | 24 |
| 15 | |
76. _____ The first three terms of an arithmetic sequence are $17x + 20$, $18x - 3$ and $20x + 1$, in that order. What is the value of x ?
77. _____ mg The effectiveness of Donovan's cold medication decreases geometrically, retaining one-fourth of its original effectiveness after four hours. If Donovan takes 500 mg of medication every four hours beginning at 8:00 a.m., how much effective medication remains in his body at 6:00 p.m.? Express your answer as a mixed number.
78. _____ marbles Ron and Martin are playing a game with a bowl containing 39 marbles. Each player takes turns removing 1, 2, 3 or 4 marbles from the bowl. The person who removes the last marble loses. If Ron takes the first turn to start the game, how many marbles should he remove to guarantee he is the winner?
79. _____ What common fraction is equal to the sum $\frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \dots + \frac{1}{512}$?
80. \$ _____ Mrs. Lowe is buying lunch for her class of 25 students. A large pizza that serves three people costs \$8, and a giant sub that serves four people costs \$9. If pizzas and subs cannot be purchased in part, what is the least amount it will cost Mrs. Lowe to feed all the students in her class?