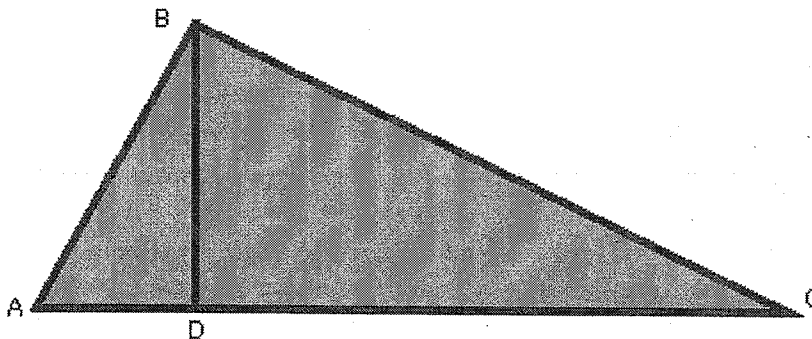


Washington State Math Championship 2008
Potpourri Test – Grade 5

Give an exact answer or one rounded to the nearest thousandth unless otherwise directed.

1. The standard notebook piece of paper has dimensions 8.5 inches along the top and 11 inches down the side. If the top $\frac{3}{22}$ of the paper is all white space, and there are 24 lines, to the nearest tenth of an inch, how many inches separate each line?
2. Jacob was sick with math-itis on test day and had to take his test the next day. If the average test score was 70 for the class of twenty-four students, what would Jacob have to score to raise the average up to 71?
3. How many diagonals can be drawn within a regular hexagon?
4. Throughout the years, many different groups of people have tried to find out how many licks it takes to get to the center of a Tootsie Roll Pop. One group from Whittier Elementary in Wisconsin found that it takes an average of 9 minutes to get to the center. Several other groups found that it took 252, 364, or 411 licks to get to the center. Using the average of the data those groups found, what is the average time spent on each lick, assuming that the licking is non-stop? Express your answer to the nearest tenth of a second.
5. How many two-digit numbers contain at least one even digit?
6. In the diagram below, $AD = 3$, $BD = 6$, and $DC = 9$, and AB is perpendicular to AC . What is the perimeter of the triangle ABC ? Express your answer to the nearest whole number.



7. A $3 \times 3 \times 3$ cube, made of all $1 \times 1 \times 1$ blocks, has all six of its faces covered in bright neon pink paint. What fraction of the $1 \times 1 \times 1$ blocks will have an *odd* number of faces covered with the bright neon pink paint?
8. At a local farm, horses cost \$10, pigs cost \$3, and cute little bunny rabbits are only \$0.50. A farmer wants to buy 100 animals for \$100. How many cute rabbits must the farmer buy? (There are two possible solutions; you need to find one of them)
9. How many possible seven-digit phone numbers are there if each of the seven digits is positive, each of the first six digits is a prime number, and the last digit is composite (in that order)?
10. Two three digit numbers are chosen such that the six digits used to represent the numbers are all different (i.e. 107 and 528). What is the largest possible product of these two three-digit numbers?