

# 2005 Washington State Math Championship

Unless a particular problem directs otherwise, give an exact answer or one rounded to the nearest thousandth.

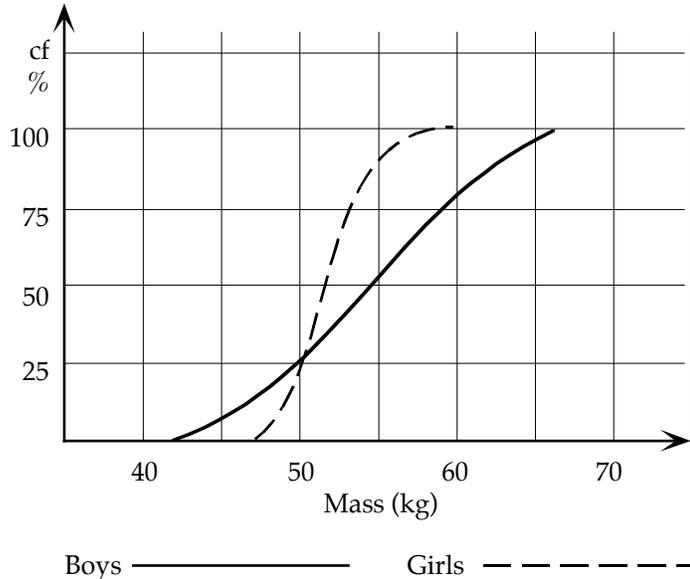
## Probability - Grade 7

1. Find the **median** ages in weeks of puppies at an animal shelter. The ages are 4, 7, 6, 13, 15, 13, 8, 11, 11, 17, 5, 6. Round your answer to the nearest tenth of a week.
2. Find the **range** for the ages in weeks of puppies at an animal shelter. The ages are 4, 7, 6, 13, 15, 13, 8, 11, 11, 17, 5, 6
3. Triangles are usually named by placing a **different** letter at each vertex. In how many different ways could a given triangle be named?
4. Charlie brown has 13 socks in his drawer, 7 blue and 6 green. He selects 5 socks at random. What is the probability he gets 2 blue and 1 green?
5. The table below shows the frequency of the number of dental fillings for a group of children.

Number of Fillings	0	1	2	3	4	5
Frequency	4	3	8	5	4	1

If this is typical, and you are a typical person, what is the probability that you would have one or fewer cavities?

6. The diagram shows the graphs of the cumulative frequency distributions of the masses of random samples of boys and girls in a school.



Use the information contained in the diagram to find the median mass of the sample of boys.

7. A two-digit number is chosen at random, 10 to 99. What is the probability that it is divisible by 8? Write your answer as a reduced fraction.
8. The refreshment served by an airline consists of wine, cheese and biscuits. During one flight, 30 passengers were served. One had wine only, 1 had cheese only, and 4 had biscuits only. Five had both wine and cheese but not biscuits, 6 had wine and biscuits but not cheese, 7 had cheese and biscuits but not wine, and the remaining passengers had all three. How many passengers had all three items?
9. In an examination, the mean score obtained by 10 students was 6 and the mode was 5. The scores for the 10 students were  $\{6, 9, 5, 8, 6, 7, 5, 8, a, b\}$ , where  $b$  was a larger score than  $a$ . Calculate  $a + b$ .
10. The table displays the frequency of scores in a competition. The mean score is 15. Find  $k$ .

Score	12	13	14	15	16	17
Frequency	2	4	7	13	$k$	5