

## Hints

### Olympiad 1

- 1) What day will it be 7 days from now? 14 days from now? 77 days from now?
- 2) Make an organized list of the different amounts starting with the 3¢-stamps.
- 3) Rewrite the series in reverse order placing each term directly under the term of the given series.  
Examine each vertical pair of terms.
- 4) How much will 5 pens and 5 pencils cost?
- 5) How long would it take one person to do the entire job alone?

### Olympiad 2

- 1) Act it out.
- 2) Try using half of the coins as nickels and the other half as quarters.
- 3) How many square inches are there in the rectangular sheet 2 feet by 3 feet?
- 4) If the average score for 4 games is 145, what is the total score for the 4 games?
- 5) If you counted from 1 on, how frequently would "1" appear in the units place? tens place? hundreds place?

### Olympiad 3

- 1) Try a simpler problem with 2, 3, or 4 children.
- 2) Average speed is the total distance divided by the total time.
- 3) If the sum of the digits of a number is divisible by 9, the number is also divisible by 9.
- 4)  $\frac{1}{9 \times 10} = \frac{1}{9} - \frac{1}{10}$ .
- 5) Compare the terms of the sequence with multiples of 3, starting with 3.

### Olympiad 4

- 1) Make 1.75 and  $1\frac{1}{4}$  either both decimals or both mixed numbers.
- 2)  $A \times AB = 114$ . Try different values for A starting with 2.
- 3) Experiment with 2 lines and count the sections. Then try 3 lines, and then 4 lines.
- 4) Could A be less than 3?
- 5) Do  $(6 \times 8)$  first.

### Olympiad 5

- 1) What is the average of the five numbers?
- 2) How many times larger than 600 square feet is 600 square yards?
- 3) Work from the bottom up.
- 4) What is the largest number that the two-digit numbers can divide exactly?
- 5) Try packaging some marbles in the larger boxes and examine what is left over.

## Hints

### Olympiad 6

- 1) Make  $X + Y$  as large as possible and  $X - Y$  as small as possible.
- 2) Arrange the numbers to be summed as follows:  
1 2 3 4 5 6  
Examine each of the vertical pairs. 12 11 10 9 8 7
- 3) What is the total weight of the original group of five weights?
- 4) Could you have as many as 15 pennies? What is the least number you could have?
- 5) Make a Venn diagram showing the relationship between French and Spanish students.

### Olympiad 7

- 1) Reread and follow the directions carefully.
- 2) Make a list of different pairs of coins arranged in order starting with (1,1), (1,5), and so on.
- 3) Divide each of the numbers in column A by 7. What do you observe?
- 4) If all of the supplies were used for just one person, how long would the supplies last?
- 5) What is the area of each small square? What is the length of a side of a small square?

### Olympiad 8

- 1) If I pick 5 beads blindfolded, can I be sure that I have 2 of the same color among those I have picked? If I then pick a 6th bead, can I then be sure that I have 2 of the same color?
- 2) How many thirds are there in 2?
- 3) Count the squares in an orderly fashion starting with  $1 \times 1$  squares,  $2 \times 2$  squares, and so on.
- 4) Work backward.
- 5) What prime factors must a number have so that it will end in one zero?

### Olympiad 9

- 1) What should be the sum of the numbers in each row, column, and diagonal?
- 2) Make a table which shows the order of terms, terms of the sequence, and multiples of 3.
- 3) List the possible dimensions in some orderly fashion.
- 4) Suppose you travel 60 miles at a rate of 30 miles per hour. How long will the trip take?
- 5) The product of the 2-digit number  $5^*$  and B is 432. What digit should B be?

### Olympiad 10

- 1) Can H be 3? What is the largest value that H can have? the smallest value?
- 2) List all pairs of counting numbers whose product is 144.
- 3) Change each of  $\frac{A}{11}$  and  $\frac{B}{3}$  to an equivalent fraction with denominator 33.
- 4) Test odd numbers as possible factors of 121 beginning with 3.
- 5) Suppose the student passed 7 tests and failed 1. How much would he then receive?