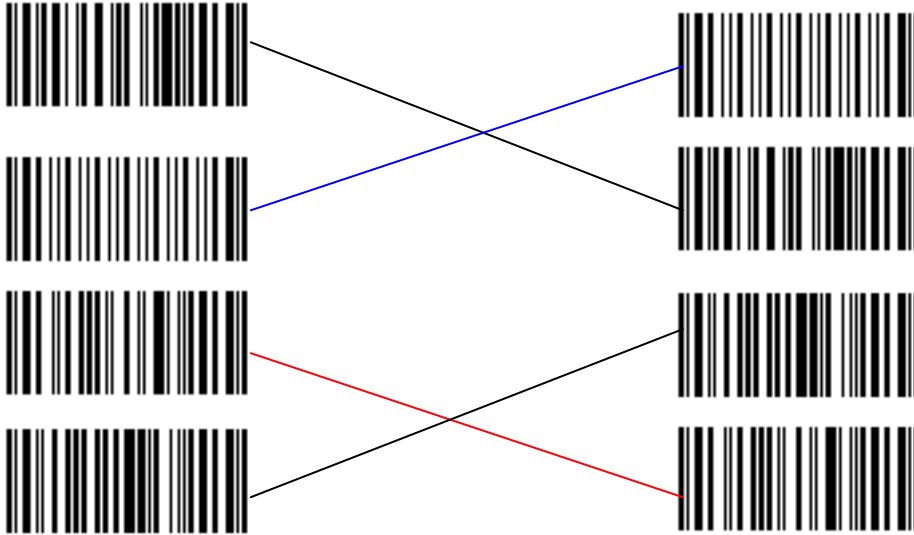# NUMBERS AND PATTERNS WORKSHEET
ANSWER KEY

Like the barcodes that identify the items you buy almost anywhere—grocery stores, bookstores, department stores—these spectra can be "read." Before you learn how to read spectra, get your pattern identification skills in shape by matching each barcode in the left column with the identical barcode on the right. Draw a line between matching barcodes.

Numbers and Patterns
1) What is the next number in this sequence?_____
1, 1, 2, 3, 5,

Answer: 8.
This is a Fibonacci sequence, where the number is calculated by adding the previous two numbers together.

2) What is the next, bottom, row in this triangle? _____
```
    1
   1 1
  1 2 1
 1 3 3 1
1 4 6 4 1
1 5 10 10 5 1
```

Answer: 1 6 15 20 15 6 1
This is Pascal's Triangle, where you get the next line of numbers by adding up the number above and to the left and the number above and to the right to get each place in the line. For example, to get the answer, you start with the number one and then add $1 + 5 = 6$, $5 + 10 = 15$ and $10 + 10 = 20$.

3) What is the next number in this sequence?_____
14, 91, 62, 53, 64, ?

4) Which letter comes next in the following sequence? _____
S, N, E, P, O, H, C, _