1. How many different sums can be obtained by adding two <u>different</u> integers chosen from the set below?
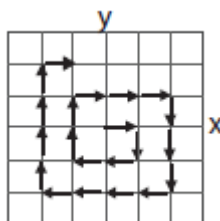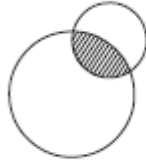   在以下數列中抽出兩個不同的整數相加，可以得到多少個不同的和？
       {–12, –11, –10, …, +6, +7, +8}

2. Alex, Bruno, and Charles each add the lengths of two sides of the same triangle correctly. They get 27 cm, 35 cm, and 32 cm, respectively. Find the perimeter of the triangle, in cm.
   亞歷克斯，布魯諾和查爾斯每人都把一個三角形的其中兩邊長度相加，分別得到27 厘米，35厘米 和 32厘米。問這三角形的周界是多少厘米？

3. The sum of a proper fraction in lowest terms and its reciprocal equals $2\frac{4}{15}$. Find the original proper fraction.

   某最簡真分數和它的倒數之和是$2\frac{4}{15}$。求這最簡真分數的值。

4. Find the integer that exceeds -5 by the same amount that $+13$ exceeds -1.
   某整數比 –5 大的值和+13比 –1大的值相同，求該整數。

5. Suppose the base of a triangle is increased by 20%, and its height is increased by 30%. By what percent is the area of the triangle increased?
   當某三角形的底邊增加20%，高度增加30%，這三角形的面積會增加百分之多少？

6. 561 is the product of 3 different prime numbers. How many factors of 561 are not prime?
   561是3個不同質數的乘積。問561的因數中有多少個是非質數？

7. The first three terms in a sequence are: 1, 2, 3. Each term after that is the opposite of the sum of the three previous terms. For example, the 4th term is -6 (the opposite of $1+2+3$),and the 5th term is 1. What is the 99th term?
   在某數列中，首三項是1, 2, 3。然後接著每一項都是之前三項之和的相反數。例如，第四項是 -6($1+2+3$的相反數)，而第五項是6。問第99項是多少？

8. The picture shows a "spiral" that begins at the origin (0,0) and passes through every lattice point in the plane. Each small arrow is 1 unit in length. Following the "spiral", what is the length of the path from the origin to the point (5,3)?
   下圖顯示了一個「螺線」，它在(0,0)開始，然後經過平面上每一交點。每一個小箭頭都長一單位。 問由(0,0)開始至(5,3)，路徑長多少？

9. A circle with radius 5 cm intersects a circle with radius 3 cm as shown. The area of the shaded region is $\dfrac{7\pi}{2}$ square cm. Find the total combined area <u>inside</u> the circles, but <u>outside</u> the shaded region. Leave your answer in terms of π.

在下圖中，一個半徑5厘米的圓相交一個半徑3厘米的圓。陰影部分的面積是 $\dfrac{7\pi}{2}$ 平方厘米。如果不包括陰影部分，兩圓共佔的面積是多少平方厘米？答案以 π 表示。

10. Starting with 1, Sara lists the counting numbers in order but omits all those that use the digit 9. What is the 300th number on her list?

由1開始，薩拉列出所有數位不包括9的數字，問第300個數字是多少？