



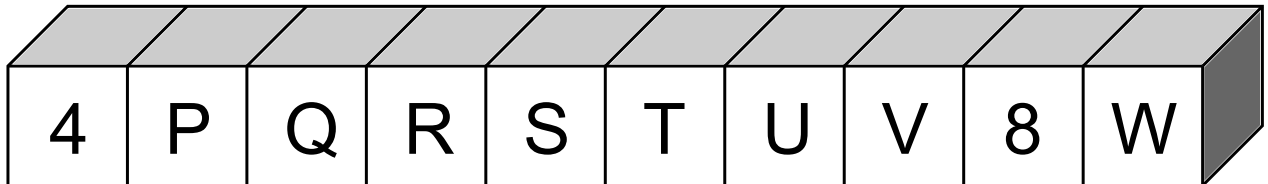
Problem of the Week

Problem C and Solution

Sum Blocks

Problem

Ten blocks are arranged as illustrated in the following diagram. Each letter shown on the front of a block represents a number. The sum of the numbers on any three consecutive blocks is 19. Determine the value of S .



Solution

Since the sum of the numbers on any three consecutive blocks is the same,

$$4 + P + Q = P + Q + R$$

$$4 + P + Q = P + Q + R \quad \text{since } P + Q \text{ is common to both sides}$$

$$\therefore R = 4$$

Again, since the sum of the numbers on any three consecutive blocks is the same,

$$T + U + V = U + V + 8$$

$$T + U + V = U + V + 8 \quad \text{since } U + V \text{ is common to both sides}$$

$$\therefore T = 8$$

Since the sum of any three consecutive numbers is 19,

$$R + S + T = 19$$

$$4 + S + 8 = 19 \quad \text{substituting } R = 4 \text{ and } T = 8$$

$$S + 12 = 19$$

$$\therefore S = 7$$

The value of S is 7.

Extension: Can you determine the values of all remaining letters?

