

UNIT 22 EXERCISES 1-5

SEQUENCE

- 2010A 2. **Answer (A):** The ferry boat makes 6 trips to the island. The number of tourists shuttled was

$$\begin{aligned} &100 + (100 - 1) + (100 - 2) + (100 - 3) + (100 - 4) + (100 - 5) \\ &= 6 \cdot 100 - (1 + 2 + 3 + 4 + 5) \\ &= 600 - 15 \\ &= 585. \end{aligned}$$

- 2000 4. **Answer (C):** The sequence of units digits is

1, 1, 2, 3, 5, 8, 3, 1, 4, 5, 9, 4, 3, 7, 0, 7, 7, 4, 1, 5, 6, ...

The digit 6 is the last of the ten digits to appear.

- 2002B 5. (D) A pentagon can be partitioned into three triangles, so the sum of the degree measures of the angles of the pentagon is

$$v + w + x + y + z = 540.$$

The arithmetic sequence can be expressed as $x - 2d$, $x - d$, x , $x + d$, and $x + 2d$, where d is the common difference, so

$$(x - 2d) + (x - d) + x + (x + d) + (x + 2d) = 5x = 540.$$

Thus, $x = 108$.