# CHECK YOUR UNDERSTANDING

—— MULTIPLE-CHOICE QUESTIONS ——

For Basic and Standard Levels

Choose the correct answer from the given four options in the following questions:

1. The number which when divided by 19 gives the quotient 4 and remainder 4 is
   (a) 76   (b) 80   (c) 72   (d) 152

2. For some integer q every even integer is of the form
   (a) q (b) $q + 1$ (c) $2q$ (d) $2q + 1$

3. For some integer m, every odd integer is of the form
   (a) $m + 1$ (b) m (c) $2m$ (d) $2m + 1$

4. Any one of the numbers a, $(a + 2)$ and $(a + 4)$ is a multiple of
   (a) 2   (b) 3   (c) 5   (d) 7   **[CBSE 2010]**

5. Euclid's division lemma states that for two positive integers a and b, there exist unique integers q and r such that $a = bq + r$, where r must satisfy
   (a) $0 < r < b$ (b) $0 < r \leq b$
   (c) $0 \leq r < b$ (d) $1 < r < b$ **[CBSE 2012]**

6. For any positive integer a and 3, there exist unique integers q and r such that $a = 3q + r$, where r must satisfy
   (a) $0 \leq r < 3$ (b) $1 < r < 3$
   (c) $0 < r < 3$ (d) $0 < r \leq 3$ **[CBSE SP 2012]**

7. The values of x and y in the given figure are
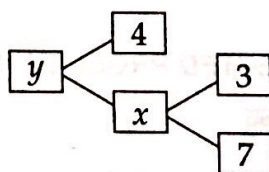
   (a) $x = 10, y = 14$ (b) $x = 21, y = 84$ (c) $x = 21, y = 25$ (d) $x = 10, y = 40$

8. The maximum number of factors of a prime number is
   (a) 1   (b) 2   (c) 3   (d) 4

9. The prime factors of the denominator of the fraction $\dfrac{3}{80}$ are
   (a) 5 and 8   (b) 2 and 5   (c) 2, 4 and 5   (d) 1, 2 and 5

10. How many prime numbers are of the form $10n + 1$, where n is a natural number such that $1 \leq n < 10$?
    (a) 5   (b) 6   (c) 4   (d) 3

11. If a and b are coprime, then a^2 and b^2 are
    (a) even numbers   (b) not coprime
    (c) odd numbers   (d) coprime

12. If 3 is the least prime factor of p and 5 is the least prime factor of q, then the