Number Properties: Medium Practice Paper 9

Q1. A number is doubled and the answer is a square number. Which of these could the number be?

A. 9 *B.* 12 *C.* 16 *D.* 8 *E.* 20

Q2. Triangular numbers are made by adding 1 + 2 + 3 + ... in order, so the first five are 1, 3, 6, 10 and 15. Which of these is both a triangular number and a square number?

A. 15 *B.* 25 *C.* 45 *D.* 49 *E.* 36

Q3. Which of these pairs shows 20 written as the sum of two prime numbers?

A. 9 and 11 *B.* 5 and 15 *C.* 3 and 17 *D.* 1 and 19 *E.* 2 and 18

Q4. The difference between two consecutive square numbers is 15. What is the larger of the two square numbers?

A. 36 *B.* 49 *C.* 81 *D.* 225 *E.* 64

Q5. A number is written as a product of its prime factors: 2 × 2 × 3 × 7. Which of these is NOT a factor of the number?

A. 6 *B.* 9 *C.* 12 *D.* 14 *E.* 21

Q6. Two prime numbers are added together and the answer is an odd number. What must one of the two prime numbers be?

A. 1 *B.* 3 *C.* 5 *D.* 9 *E.* 2

Q7. How many two-digit numbers are multiples of both 3 and 5?

A. 6 *B.* 3 *C.* 5 *D.* 7 *E.* 15

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Q8. When a whole number is divided by 4, the remainder is 3. The number is then doubled. What is the remainder when the new number is divided by 4?

A. 0 *B.* 1 *C.* 3 *D.* 6 *E.* 2

Q9. Which of these numbers is both a multiple of 4 and a factor of 36?

A. 8 *B.* 9 *C.* 12 *D.* 16 *E.* 18

Q10. What is the last digit of the answer to 7 × 7 × 7 × 7?

A. 7 *B.* 9 *C.* 1 *D.* 3 *E.* 8

Q11. The first three odd numbers add up to 9, because 1 + 3 + 5 = 9. The first four odd numbers add up to 16. What do the first eight odd numbers add up to?

A. 32 *B.* 36 *C.* 49 *D.* 64 *E.* 72

Q12. Twin primes are two prime numbers with a difference of 2. Which of these pairs are twin primes?

A. 7 and 9 *B.* 17 and 19 *C.* 13 and 15 *D.* 19 and 21 *E.* 23 and 25

Q13. What is the smallest three-digit number that is a multiple of both 6 and 8?

A. 102 *B.* 104 *C.* 108 *D.* 144 *E.* 120

Q14. Sam is older than 10 and younger than 30. This year his age is a multiple of 4. Next year his age will be a multiple of 5. How old is Sam now?

A. 12 *B.* 16 *C.* 24 *D.* 20 *E.* 28

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Q15. The three-digit number 5□6 is divisible by 3 but not by 9. Which of these digits could go in the box?

A. 0 *B.* 2 *C.* 7 *D.* 9 *E.* 4

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