

1. If n is odd, p is even, and q is odd, what is $n + p + q$? **E**
2. If r is a prime number greater than 2, and s is odd, what is rs ? **ODD**
3. If t is odd, what is t^4 ? **ODD**
4. If u is even and w is odd, what is $u + uw$? **E**
5. If $x \div y$ yields an odd integer, what is x ? **CBD**
6. If $a + b$ is even, what is ab ? **CBD**
7. If c, d , and e are consecutive integers, what is cde ? **E**
8. If f and g are prime numbers, what is $f + g$? **CBD**
9. If h is even, j is odd, and k is odd, what is $k(h + j)$? **ODD**
10. If m is odd, what is $m^2 + m$? **E**
11. If n, p, q and r are consecutive integers, what is their sum? **E**
12. If $t = s - 3$, what is $s + t$? **ODD**
13. If u is odd and w is even, what is $(uw)^2 + u$? **ODD**
14. If xy is even and z is even, what is $x + z$? **CBD**
15. If a, b , and c are consecutive integers, what is $a + b + c$? **CBD**
16. If x, y and z are distinct prime numbers and xy is even and xz is even, what is the value of x ? **2**
17. If a and b are both prime numbers greater than 10, which of the following CANNOT be true? Indicate all that apply!
 - I. ab is an even number.
 - II. The difference between a and b equals 117.
 - III. The sum of a and b is even.
18. Given that there are x unique factors of x and that $x > -10$. What is the value of integer x ? **1, 2**
19. If p, q and r are integers, is $pq+r$ even given that $p+r$ is even and $q+r$ is odd? **CBD**
20. If a, b , and c are integers and $ab + c$ is odd, which of the following must be true? Indicate all that apply!
 - I. $a + c$ is odd
 - II. $b + c$ is odd
 - III. abc is even
21. If x and y are integers, and $w = x^2y + x + 3y$, which of the following statements must be true? Indicate all such statements.
 - a) If w is even, then x must be even.
 - b) If x is odd, then w must be odd.
 - c) If y is odd, then w must be odd.
 - d) If w is odd, then y must be odd.
22. w, x and y are consecutive even integers with $wxy = 0$ and $w < x < y$
 Column A: x
 Column B: 0 **CBD**
23. If x and y are positive odd integers, then which of the following must also be an odd integer? Indicate all that apply!
 - a) x^{y+1}
 - b) $x(y + 1)$
 - c) $(y + 1)^{x-1} + 1$
24. 202 divided by some prime number x yields an odd number. 411 multiplied by some prime number y yields an even number
 Quantity A: x
 Quantity B: y **Equal**

25. Quantity A: The tenths digit of the product of two even integers divided by 4.
Quantity B: The tenths digit of the product of an even and an odd integer divided by 4. **CBD**
26. If n is a nonnegative integer, then $n(n+1)(n+2)$ is
- A) Even only when n is even
 - B) Even only when n is odd
 - C) Odd whenever n is odd
 - D) Divisible by 3 only when n is odd
 - E) **Divisible by 12 whenever n is even**