



9. What is the degree of the polynomial  $5^2x^5y^7z+2^3$  ?
- A) 18                      B) 17                      C) 13                      D) 12                      E) NOTA
10. Find the sum of all integer solutions of the inequality  $|4x-3|<13$ .
- A) 3                      B) 6                      C) 7                      D) 9                      E) NOTA
11. Consider that  $y$  is inversely proportional to  $x$ , and  $y$  is 2 when  $x$  is 6. Find  $y$  when  $x$  is 1.5
- A) 0.5                      B) 1.5                      C) 4.5                      D) 8                      E) NOTA
12. The difference between two numbers is doubled and increased by the sum of the two numbers. If the result is 16 when the smaller number is 5, find the larger number.
- A) 1                      B) 7                      C) 9                      D) 12                      E) NOTA
13. The distance from the point  $(x, 9)$  to the point  $(11, 3)$  is  $6\sqrt{2}$ . Find  $x$ .
- A) 9 or 13                      B) 3 or 15                      C) -3 or 9                      D) 5 or 17                      E) NOTA
14. Simplify:  $\left(\frac{4x^3y^{-1}z}{-12xy^{-5}z^{-3}}\right)^2$ .
- A)  $-\frac{1}{9}x^4y^{-2}z^5$                       B)  $\frac{1}{9}x^4y^{-8}z^6$                       C)  $\frac{1}{9}x^4y^6z^6$                       D)  $\frac{1}{9}x^4y^8z^8$                       E) NOTA
15. Evaluate  $(ma)^2+|v-s|$  if  $m=-6$ ,  $a=2$ ,  $v=-8$ , and  $s=-5$ .
- A) -141                      B) 141                      C) 147                      D) 157                      E) NOTA
16. Simplify  $(\sqrt{28})(\sqrt{21})$ .
- A)  $14\sqrt{3}$                       B)  $28\sqrt{3}$                       C)  $7\sqrt{7}$                       D) 7                      E) NOTA
17. Factor  $4x^2-5xy-6y^2$ .
- A)  $(x-3y)(4x-2y)$                       C)  $(x-2y)(4x+3y)$                       E) NOTA  
 B)  $(x+3y)(4x-2y)$                       D)  $(x-2y)(4x-3y)$



26. What is the units digit of  $12^9$ ?
- A) 2                      B) 4                      C) 6                      D) 8                      E) NOTA
27. Determine  $k$  so that the graph of  $-2x + ky = 5$  has the same slope as the graph of  $3x - 10y = 7$ .
- A) 10                      B)  $\frac{20}{3}$                       C)  $\frac{2}{3}$                       D) -10                      E) NOTA
28. Simplify  $(x+5)^2 + (x-3)^2$ .
- A)  $x^2 + 4$                       B)  $x^2 + 34$                       C)  $2x^2 + 4x + 16$                       D)  $2x^2 + 4x + 34$                       E) NOTA
29. Solve  $d = \frac{1}{e+f}$  for  $f$ .
- A)  $f = \frac{1-e}{d}$                       B)  $f = \frac{d-1}{de}$                       C)  $f = \frac{1-de}{d}$                       D)  $f = \frac{de-1}{d}$                       E) NOTA
30. Bryce was bored over summer vacation and decided to write down every number from 1 to 1000 (inclusive). How many zeros did he write?
- A) 100                      B) 111                      C) 192                      D) 196                      E) NOTA