





22. Given: 
$$\log_3 \sqrt[3]{729} \cdot \frac{1}{3} \sqrt{x_y \sqrt{243} \cdot 81^{-0.73}}}_{x_y \sqrt{243} \cdot 81^{-0.73}} = \frac{1}{2}$$
. Find the sum of the digits of the value x.  
a) 12 b) 15 c) 16 d) 17 c) 18  
23. Simplify the expression  $5^{(2h_0 \times 10get * h)}_{x_y \sqrt{2}}$   
a)  $5^{x_h}$  b)  $5^{x_y}$  c) c d)  $a^1$  e)  $3a$   
24. Find the sum of the roots of  $|x-7|^2 + 2 |x-7| = 24$ ,  
a) 4 b) 14 c) 7 d) 12 e) 15  
25. If  $+3$  and  $\frac{1}{2}$  are two of the three zeros of the function  $f(x) = ax^3 + 3x^2 - bx + 3$  with  
a, b c Real  $x^{x_h}$ , find the numerical value of  $a + b$ .  
a) 6 b) 7 c) 8 d) 9 e) 10  
26. Given:  $g(x) = ax^4 - 14x^3 + a^2x^2 - 9x + \frac{3}{2}$ . For what integer value of a will  $g(x)$  be exactly  
divisible by  $x - 2^{x}$   
a)  $-4$  b) 2 c)  $4$  d)  $-2$  e) 6  
27. A small tree 5 feet from a lamp post casts a shadow 4 feet long. If the lamp post were 2 feet higher  
the shadow would outly be 3 feet long. How tail is the tree?  
a)  $\frac{1}{2}$  ft. b)  $\frac{24}{5}$  ft. c)  $\frac{8}{3}$  ft. d)  $\frac{14}{3}$  ft. e)  $\frac{17}{5}$  ft.  
28. A circle is inscribed in a triangle with sides of lengths of 8, 17, and 19. Let the segments  
determined by the point of tangency on the value of kargh 8 be x and x, with  $y < x$ . Find the ratio of  
w (o x)

