

- The equation of plane passing through the points $(0,0, a)$ and $(0, b, 0)$ which is parallel to the x -axis is
 - $\frac{y}{a} + \frac{z}{b} = 1.$
 - $\frac{x}{a} + \frac{y}{b} = 1.$
 - $\frac{z}{a} + \frac{y}{b} = 1.$
 - $\frac{z}{a} + \frac{x}{b} = 1.$
- The line $ax + by + c = 0$ is normal to the curve $xy = 10$ at a point. Then
 - $a > 0, b > 0$ or $a < 0, b < 0.$
 - $a < 0, b > 0$ or $a > 0, b < 0.$
 - $b > 0, a \neq 0.$
 - $a > 0, b \neq 0.$
- Let $f(x) = \min\{x^2, (x - 1)^2\}$. Compute the area above the x -axis bounded by the curve f in the interval $[0,1]$.
 - $\frac{1}{24}.$
 - $\frac{1}{12}.$
 - $\frac{1}{6}.$
 - $\frac{1}{3}.$
- Evaluate $\sum_{r=0}^n 2r \binom{n}{r}^2$.
 - $\binom{2n}{n}.$
 - $n \binom{2n}{n}.$
 - $\frac{n}{2} \binom{2n}{n}.$
 - $2n \binom{2n}{n}.$
- Compute the radius of a circle such that the pair of straight lines given by the equation $x^2 + y^2 - 2xy + (a + b)(x + y) + ab = 0$ are tangent to it.
 - $\frac{|b-a|}{\sqrt{2}}.$

B. $\frac{|b-a|}{2}$.

C. $\frac{|b-a|}{2\sqrt{2}}$.

D. $\frac{|b-a|}{4}$.