

Nishant Jindal

2, 4, 7, 6

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$(b, 0)$

$y = e^{|x-b|}$

$a > 3$

$2 = |e^{|x-b|} - a|$

$(x, y) = (-\frac{1}{2}, -\frac{1}{2})$

$16x^2 + 16y^2 + 16x + 16y = 1$

$\geq 2 \left( 16 \frac{x+y^2+x^2+y}{2} \right)^{\frac{1}{2}}$

$\geq 2 \left( 16 \left( -\frac{1}{2} + \frac{1}{4} + \frac{1}{4} - \frac{1}{2} \right)^{\frac{1}{2}} \right)^{\frac{1}{2}}$

$\therefore (x, y) = (-\frac{1}{2}, -\frac{1}{2})$

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[illegible]

$$f(x) = 2x + \boxed{\underline{\underline{[x]}}} + \frac{\sin 2x}{2}$$

$$[k, k+1)$$

$$k \in \mathbb{I} -$$

$$f'(x) = 2 + \cos 2x > 0$$

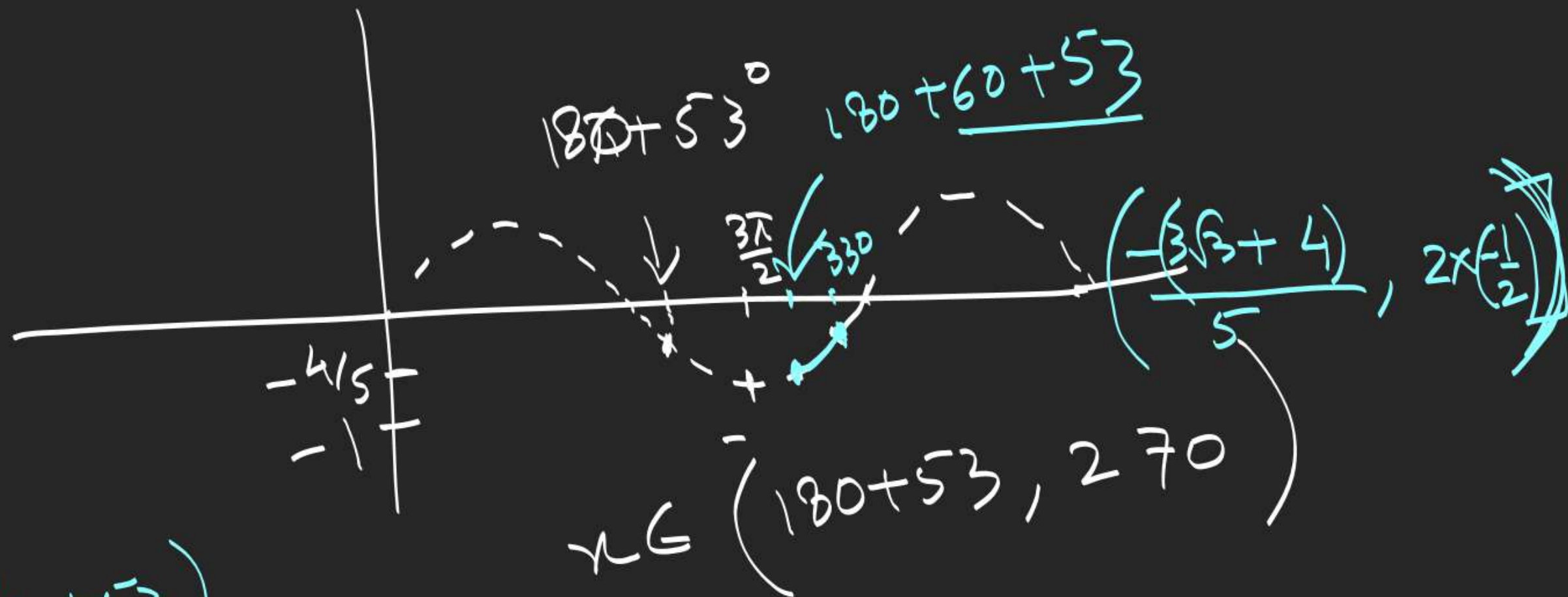
$$2(k+1) + \boxed{k} + \frac{\sin(2k+2)}{2}$$

into 1-1



$$\log_n \boxed{[x]} \leq \log_n x = 1$$

$$\boxed{x > 1}$$



$$-\sin(60+53)$$

$$-\left(\frac{\sqrt{3}}{2} \cdot \frac{3}{5} + \frac{1}{2} \cdot \frac{4}{5}\right)$$

$$\underbrace{\left[\frac{5 \sin x}{-5}\right]}_{\sin x \in [-1, -\frac{4}{5})} + \underbrace{\left[\frac{\cos x}{-1}\right]}_{\cos x \in [-1, 0)} = -6$$

$$f(x) = 2 \sin\left(x + \frac{\pi}{3}\right)$$

$$180+60+53, \quad \underline{270+60}$$



$$f(tx, ty) = t^n f(x, y)$$

$$g(x) = \sqrt{2+x} + \sqrt{2-x} \in [2, 2\sqrt{2}]$$

$$g'(x) = \frac{1}{2\sqrt{2-x}} - \frac{1}{2\sqrt{2+x}} = \frac{\sqrt{2-x} - \sqrt{2+x}}{2\sqrt{2-x}\sqrt{2+x}}$$

$$g'(x) = \frac{2\sqrt{2+x} - 2\sqrt{2-x}}{2\sqrt{2-x}\sqrt{2+x}}$$

$$1+x^2 \leq 5$$

(1/5)

$$g^2 > 0$$



$$\frac{-2x}{(\sqrt{2-x} + \sqrt{2+x})^2 \sqrt{2-x}\sqrt{2+x}}$$

$x < 0$   
 $x > 0$

$$(x^2 + 5x)(x - x^2) \geq 0$$

-41

$$2 \frac{2^{f^{-1}(x)} - 2^{-f^{-1}(x)}}{2^{f^{-1}(x)} + 2^{-f^{-1}(x)}} = x$$

$$\frac{2(t^2 - 1)}{t^2 + 1} = x$$

$$(2 - x)t^2 = 2 + x$$

$$2^{f^{-1}(x)} = \sqrt{\frac{2+x}{2-x}}$$