

4.20
4

$$4 \sin x \cos^3 x - 4 \sin^3 x \cos x < \sin 6x$$
$$4 \sin x \cos x (\cos^2 x - \sin^2 x) < \sin 6x$$

$$2 \sin 2x \cos 2x < \sin 6x$$

$$\sin 4x < \sin 6x$$

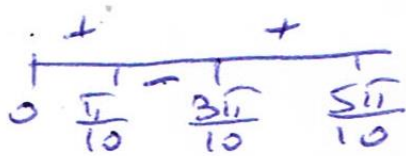
$$0 < \sin 6x - \sin 4x$$

$$0 < 2 \sin \cancel{x} \cos 5x$$

$$x = \pi |k$$

$$5x = \pm \frac{\pi}{2} + \pi k$$

$$x = \pm \frac{\pi}{10} + \frac{\pi}{5} k$$



$$\boxed{0 < x < \frac{\pi}{10}}$$
$$\boxed{\frac{3\pi}{10} < x < \frac{5\pi}{10}}$$