

$$1) \cos 2x = \frac{\sqrt{2}}{2}$$

$$2x = \pm \arccos \frac{\sqrt{2}}{2} + 2\pi k, k \in \mathbb{Z}$$

$$2x = \pm \frac{\pi}{4} + 2\pi k$$

$$x = \pm \frac{\pi}{8} + \pi k; k \in \mathbb{Z}$$

$$\text{Ombem: } \pm \frac{\pi}{8} + \pi k, k \in \mathbb{Z}$$

$$2) \sqrt[3]{1-3x} = -2$$

$$1-3x = -2^3$$

$$1-3x = -8$$

$$-3x = -8-1$$

$$-3x = -9$$

$$x = 3$$

$$\text{Ombem: } 3$$

$$3) a) y = 7x + 4; (y' = 7;$$

$$b) y = x^5 + 4x^3 - 7x + 9;$$

$$y' = 5x^4 + 12x^2 - 7$$

$$c) y = 2 \sin x + 4 \cos x$$

$$y' = 2 \cos x - 4 \sin x$$