

$$(1) \quad 2x^2 - 4x + 2 = 0$$

$$x^2 - 2x + 1 = 0$$

$$\Delta/4 = 1 - 1 = 0 \rightarrow 1 \text{ solution}$$

$$x = 1$$

$$2(1) - 4(1) + 2 = 0 \quad \checkmark$$

$$(2) \quad -\frac{x}{2} \leq -3$$

$$\frac{x}{2} \geq 3 \rightarrow x \geq 6$$

$$-\frac{6}{2} = -3 \quad \checkmark$$

$$(5) \quad e^{x+y} = e^x \cdot e^y \quad \checkmark$$

$$(6) \quad (e^x)^2 = e^{x^2} \quad \checkmark$$

$$(7) \quad \forall x, y \in \mathbb{R}^* - \{0\}$$

$$\ln\left[\frac{x}{y}\right] = -\ln\left[\frac{y}{x}\right]$$

$$\text{LHS: } \ln\left(\frac{x}{y}\right) = \ln\left[\left(\frac{y}{x}\right)^{-1}\right] = -\ln\left(\frac{y}{x}\right)$$

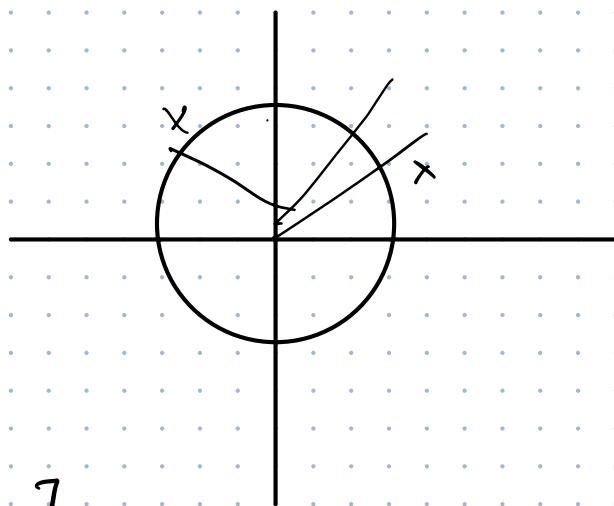
with $y \neq 0$

$$(10) \quad \cos(x) = \quad \quad \quad \text{same}$$

$$\cos(\pi - x) =$$

$$\cos(2\pi - x) = \quad \quad \quad \text{same}$$

$$\cos(-x) =$$



$$(11) \quad \sin(\theta) = -\frac{1}{2}, \quad [\pi, 2\pi]$$

$$\theta = \frac{1}{6}(12\pi - \pi) = 2\pi - \frac{\pi}{6} = \frac{12\pi - \pi}{6} = \frac{11\pi}{6}$$

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