$D_1: z \in \mathbb{C} \quad \operatorname{Re} z = \frac{\pi}{4}$

$D_2: z \in \mathbb{C} \quad \operatorname{Im} z = 2$

$w = \sin z$

$D_1 \; w = \sin\left(\frac{\pi}{4}\right) =$

$$= \frac{e^{i\frac{\pi}{4}} - e^{-i\frac{\pi}{4}}}{2i} =$$

$$= \frac{\cos\frac{\pi}{4} + i\sin\frac{\pi}{4} - \left(\cos\left(\frac{\pi}{4}\right) + i\sin\left(\frac{\pi}{4}\right)\right)}{2i}$$

$$= \frac{\frac{\sqrt{2}}{2} + i\frac{\sqrt{2}}{2} - \left[\frac{\sqrt{2}}{2} - i\frac{\sqrt{2}}{2}\right]}{2i} = \frac{\sqrt{2}}{2}$$

P2:

$$w = \sin z \qquad z = 2i:$$

$$w = \sin 2i = \frac{e^{i 2 i} - e^{-i \cdot 2 i}}{2i} =$$

$$= \frac{e^{-2} - e^{2}}{2i} = -\left(\frac{e^{2} - e^{-2}}{2i}\right) =$$

$$= -\frac{1}{i}\left(\frac{e^{2} - e^{-2}}{2}\right) = i\,\mathrm{sh}\,2$$

$$w_1 = \sqrt{2}$$

$$w_2 = i\,\mathrm{sh}\,2$$

Odbm :

$$(1-2i)(3-2i) =$$

$$= 3-2i-6i-4 =$$

$$= -1-8i$$

Oblic:

$$(-2+\sqrt{3}i)^3 =$$

$$2^3 + 3(-2)^2\sqrt{3}i +$$

$$+ 3(-2)(\sqrt{3}i)^2 +$$

$$+ (\sqrt{3}i)^3 =$$

$$-8 + 12\sqrt{3}i + 18$$
$$-3\sqrt{3}i =$$
$$= \underline{10 + 9\sqrt{3}i}$$