

-3)

1) Dodecágono = 12 lados

$$\partial_e = \frac{360^\circ}{n} \rightarrow \partial_e = \frac{360^\circ}{12} = 30^\circ$$

$$\partial_i + \partial_e = 180^\circ$$

$$\partial_e = 30^\circ$$

$$\partial_i + 30^\circ = 180^\circ$$

$$\partial_i = 150^\circ$$

$$\partial_i = 150^\circ$$

2) Icoságono = 20 lados

$$S_i = 180^\circ(20-2)$$

$$S_i = 3600^\circ - 360^\circ$$

$$S_i = 3240^\circ$$

3) $\alpha_i = \frac{S_i}{n}$

$$\alpha_i = \frac{180^\circ(n-2)}{n} //$$

4) $S_i = S_e \cdot 5$

$$180^\circ(n-2) = 360^\circ \cdot 5$$

$$180^\circ \cdot 360^\circ = 1800^\circ$$

$$n = \frac{2160^\circ}{180^\circ} = 12 \text{ lados} //$$

Dodecágono

5) $n = 2d \quad d = \frac{n(n-3)}{2}$

$$\frac{n}{2} = d \quad \downarrow$$

$$\frac{n}{2} = \frac{n(n-3)}{2}$$

$$\hookrightarrow 2n = 2(n(n-3))$$

$$2n = 2n^2 - 6n$$

$$2n^2 = 8n$$

$$2n \cdot n = 8n \rightarrow n = 4$$

6) $\alpha_i = 3 \cdot \alpha_e \quad \alpha_i + \alpha_e = 180^\circ$

$$3\alpha_e + \alpha_e = 180^\circ$$

$$\alpha_e = \frac{360^\circ}{n}$$

$$\alpha_e = 45^\circ$$

$$n = \frac{360^\circ}{45^\circ} = 8 \quad \text{Octágono}$$