

Dot Game Eat Calculation

6/14/24

$$r = 10$$

$$r = 6$$

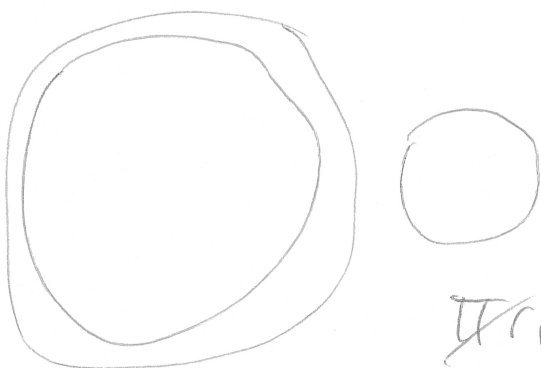
$$\text{old area} = 100\pi$$

$$\text{new area} = 136\pi$$

$$r_1$$

$$\text{new } r = \underline{\underline{\sqrt{136}}} r_2$$

$$10 \rightarrow \underline{\underline{11}}$$



$$\pi r_1^2 + \pi r_2^2 = \pi r_3^2$$

$$\sqrt{r_1^2 + r_2^2} = r_3$$

$$32^2 + x^2 = 40^2$$

$$x^2 = 40^2 - 32^2$$

$$= (40 - 32)(40 + 32)$$

$$= 8 \times 72$$

$$x^2 = 8 \times 8 \times 9$$

$$x = 8 \times 3 = \textcircled{24}$$