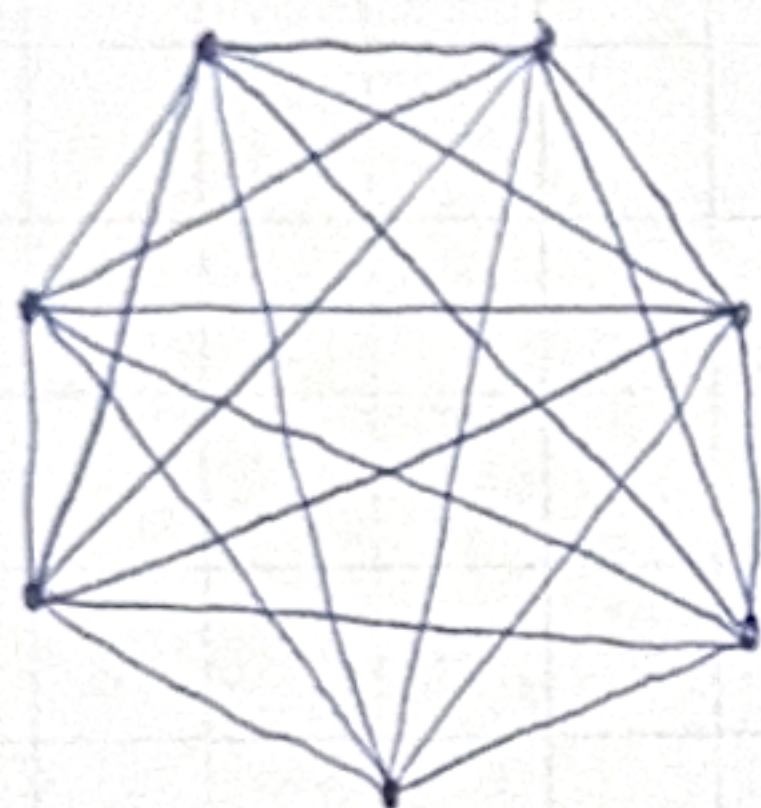


2



14 диагоналі бар

5 балл

1.

$$\begin{aligned} \operatorname{tg} 20^\circ \cdot \operatorname{tg} 40^\circ \cdot \operatorname{tg} 80^\circ &= \frac{\sin 20^\circ}{\cos 20^\circ} \cdot \frac{\sin 40^\circ}{\cos 40^\circ} \cdot \frac{\sin 80^\circ}{\cos 80^\circ} = \\ &= \frac{\sin 20^\circ \cdot 2 \sin 20^\circ \cos 20^\circ \cdot 2 \sin 40^\circ \cdot \cos 40^\circ}{\cos 20^\circ \cdot \cos 40^\circ \cdot \sin 100^\circ} = \frac{2 \sin 40^\circ \cos 10^\circ \cdot 2 \sin 20^\circ \cdot 2 \sin 40^\circ}{\sin 40^\circ} \end{aligned}$$

3 балл

$$= 8 \cos 10^\circ \sin 20^\circ \sin 40^\circ$$

$$3. \quad 13! - 11! = 11! \cdot 12! \cdot 13! - 11! = 11! (12 \cdot 13 - 1) = 11! \cdot 155 : 31 = 5 \cdot 11!$$

7 балл

Барлығы: 15 балл