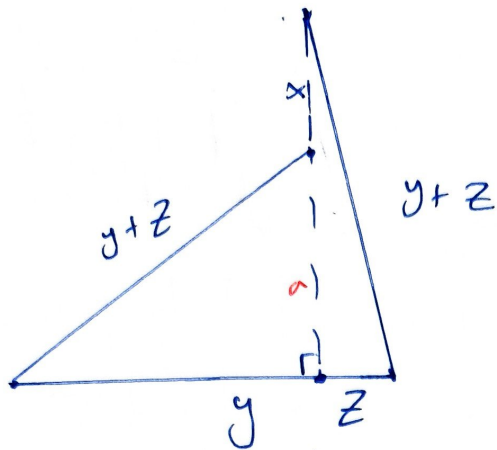


extra:



$$x \sqrt{3} \geq |y - z|$$

$$y^2 + z^2 + 2yz = y^2 + a^2 + 2ya$$

$$z^2 + 2yz = a^2 + 2ya$$

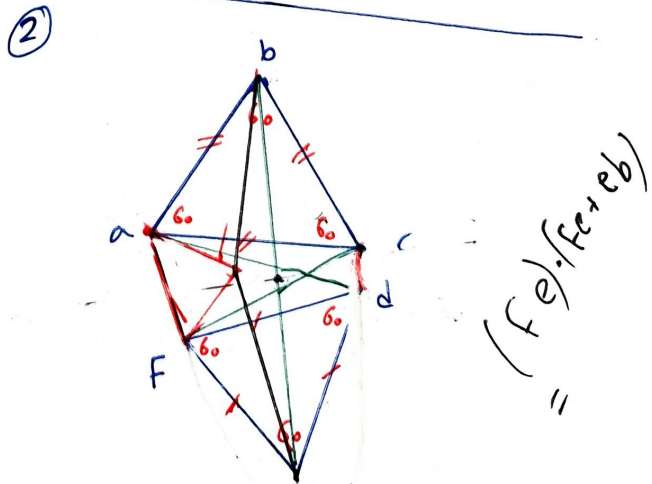
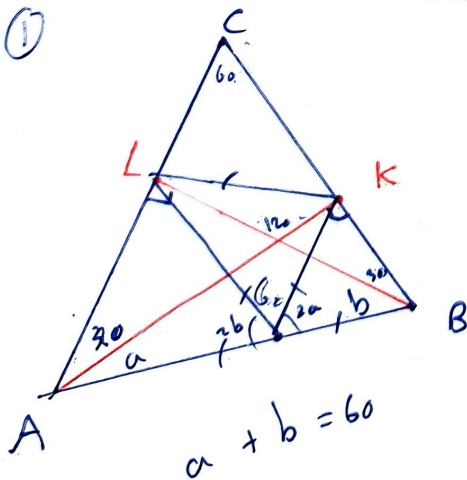
$$y^2 + z^2 + 2yz = z^2 + x^2 + a^2 + 2ax$$

$$y^2 + 2yz = a^2 + 2ax$$

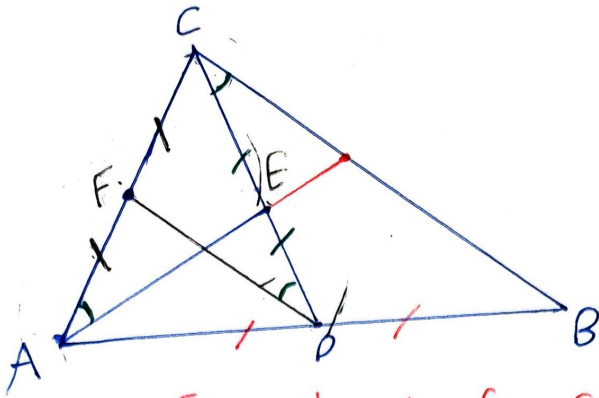
$$a^2 + 2ya = a^2 + 2ax$$

$$ya = ax$$

$$x = y$$



3



take F midpoint of CE

$$\Rightarrow CB \parallel FD$$

$$\Rightarrow \angle PCB = \angle CDF$$

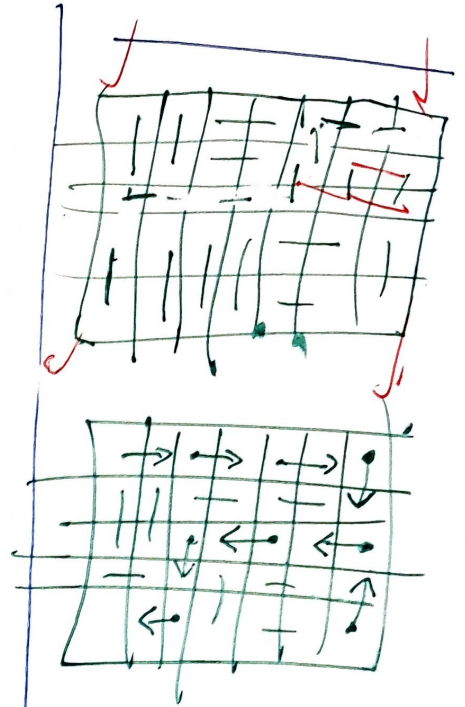
$$\Rightarrow \angle ACE = \angle CDF$$

$\Rightarrow AFED$ cyclic

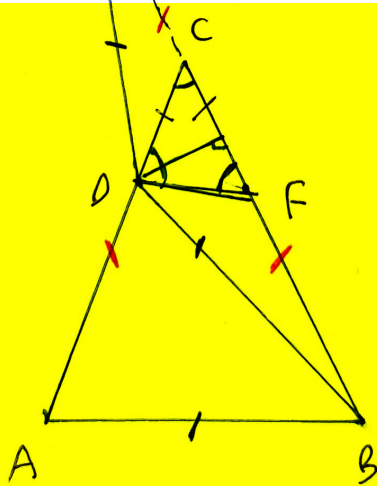
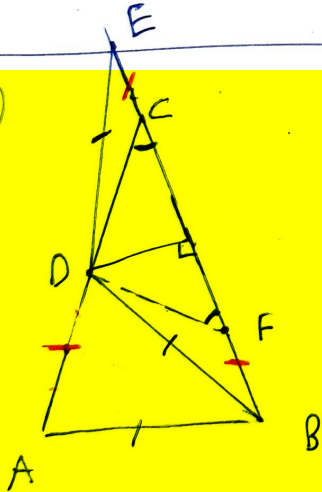
$$\Rightarrow CE \cdot CD = CF \cdot CA$$

$$2x^2 = 2y^2$$

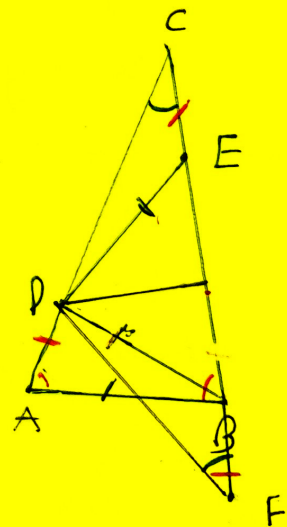
$$x = y$$



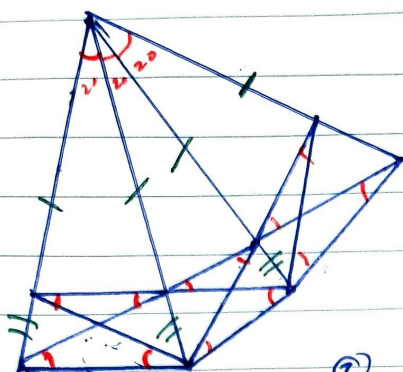
4



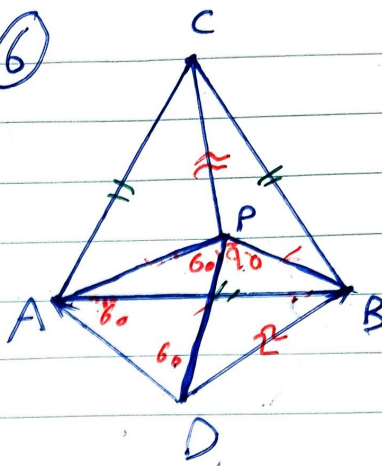
photo



⑤

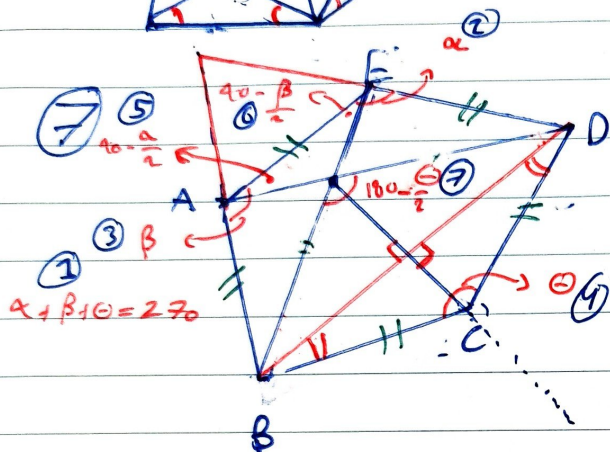


⑥



⑦

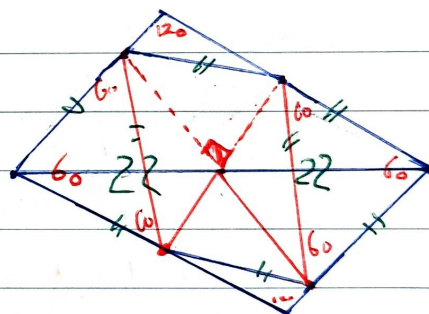
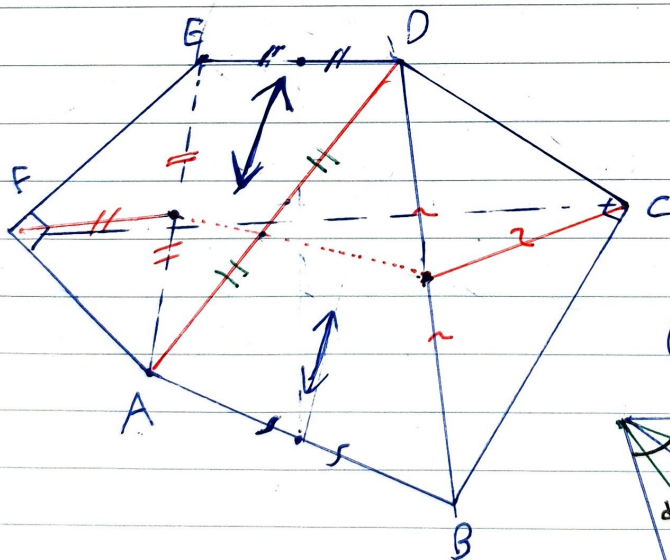
⑧



⑧ magic ☺☺

⑩

⑨



⑪

