

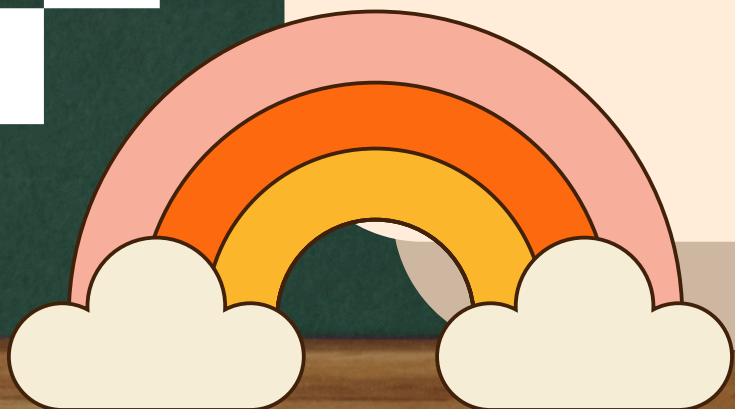


TUGAS MATEMATIKA



DIMENSI TIGA

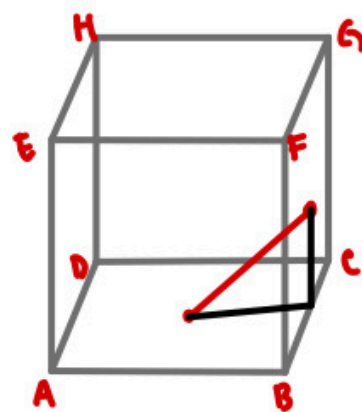
ALDEN/02, OCHA/03, ALYN/05, JANSEN/19





TITIK KE TITIK

kubus ABCDEFGH. rusuk 8 cm
tentukan jarak antara titik P
(Pusat bidang ABCD) dan titik Q
(Pusat bidang BCFG)



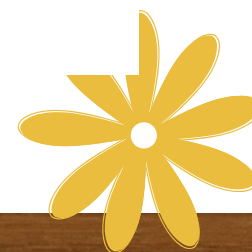
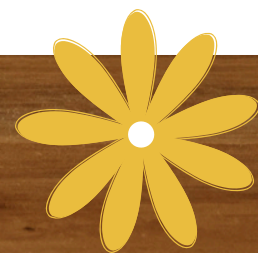
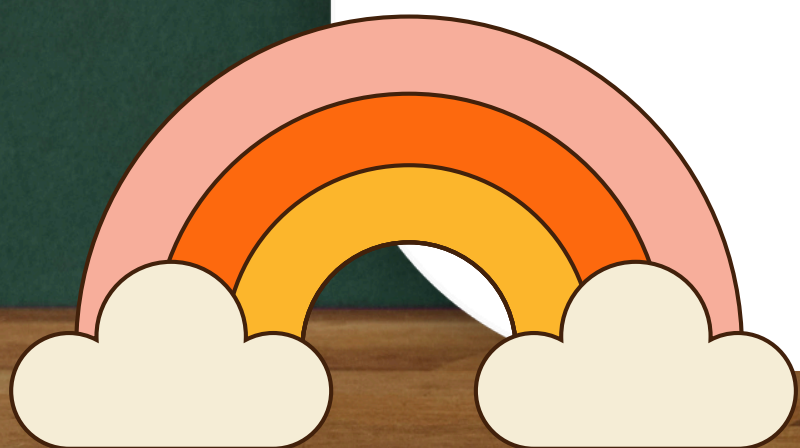
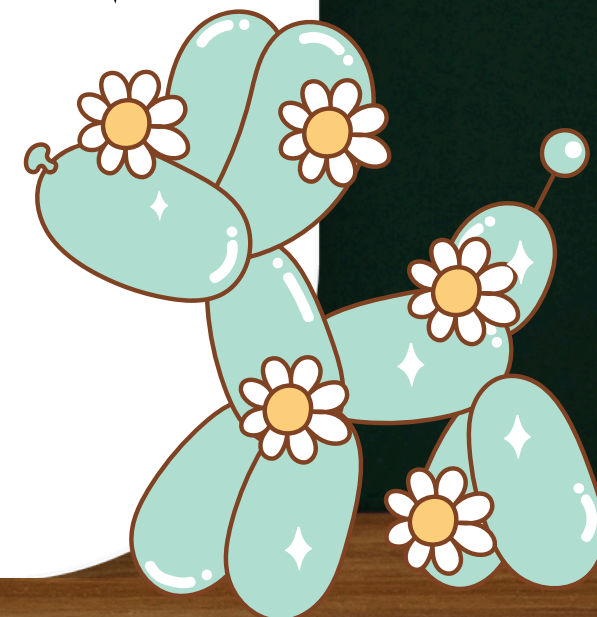
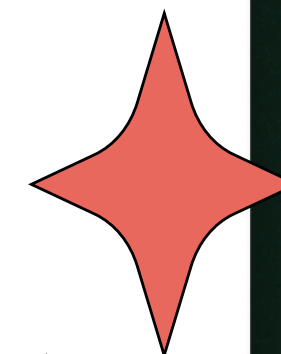
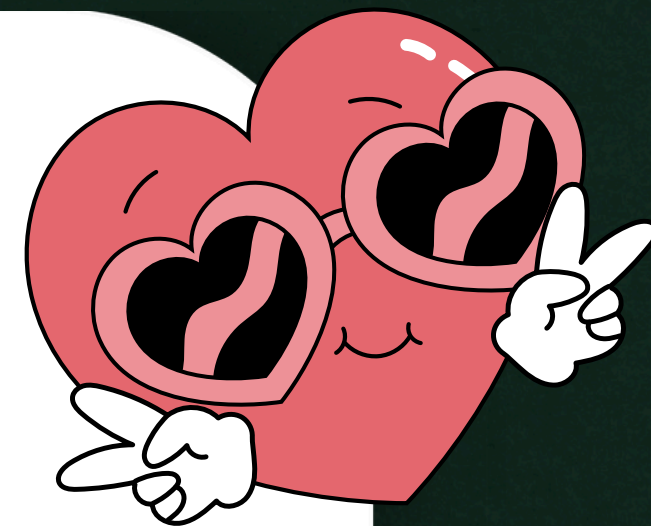
Jawab: $a^2 + b^2 = c^2$

$$4^2 + 4^2 = c^2$$

$$16 + 16 = c^2$$

$$\sqrt{32} = c$$

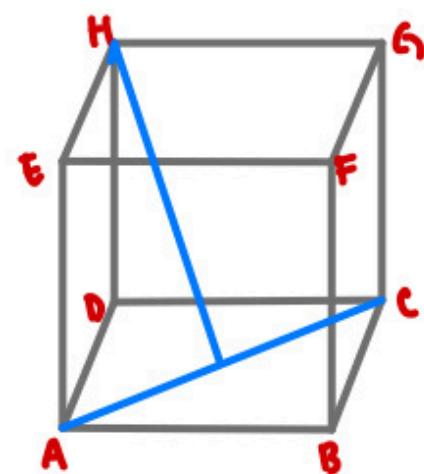
$$4\sqrt{2} = c$$





TITIK KE GARIS

kubus bidang ABCDEFGH, rusuk 8 cm
tentukan jarak titik H ke garis AC



$$\text{Jawab: } a^2 + b^2 = c^2$$

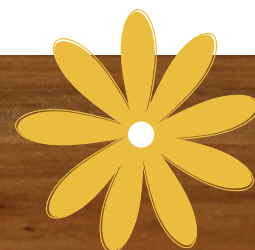
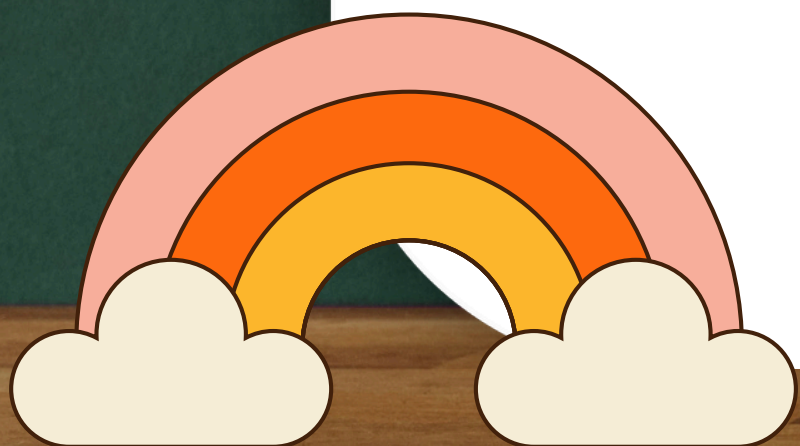
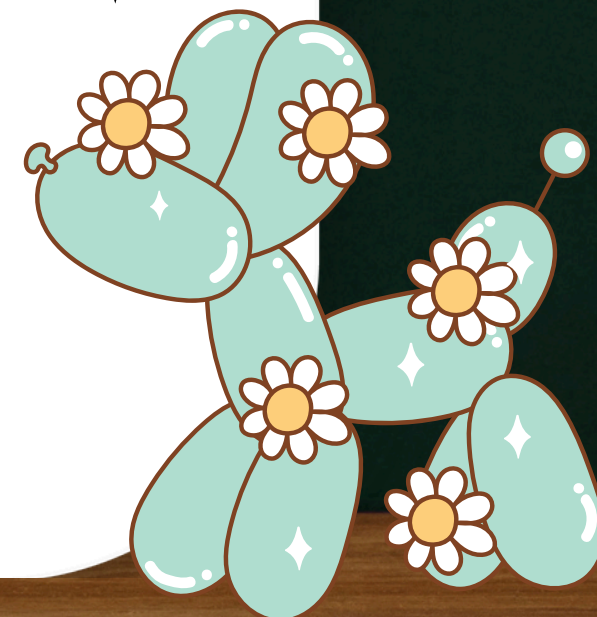
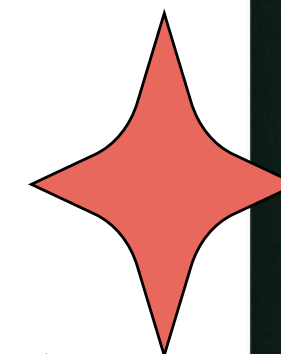
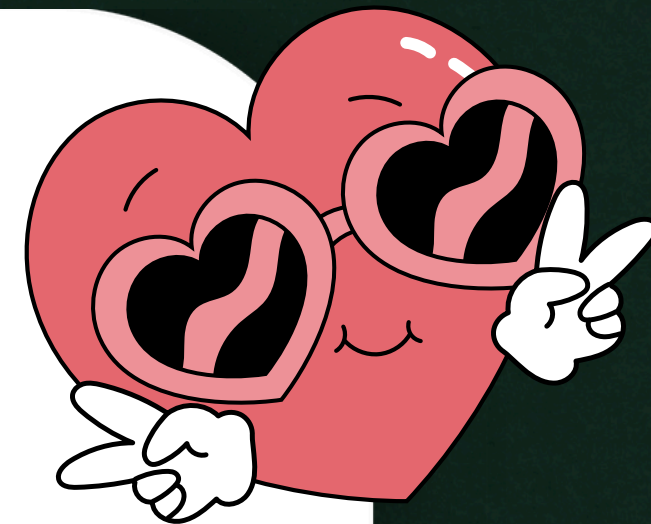
$$4\sqrt{2}^2 + b^2 = 8\sqrt{2}^2$$

$$32 + b^2 = 128$$

$$b^2 = 128 - 32$$

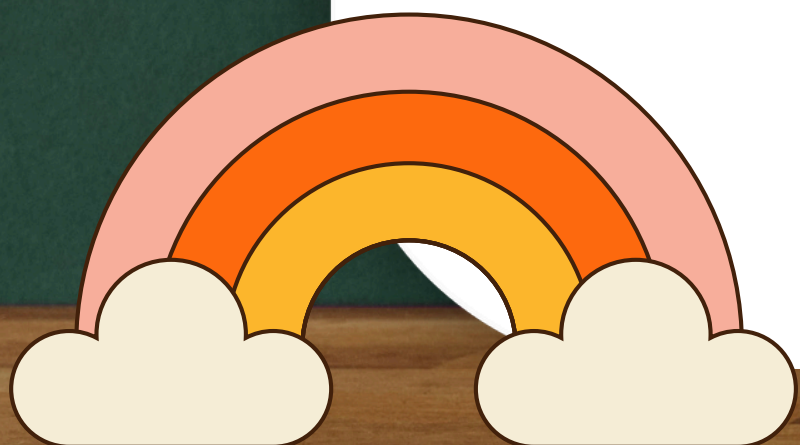
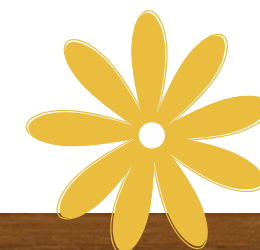
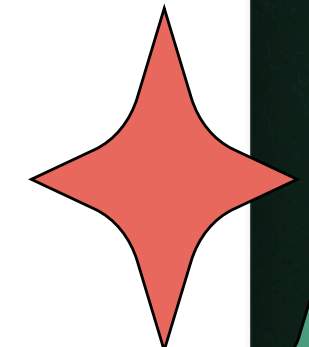
$$b^2 = \sqrt{96}$$

$$b = 4\sqrt{6} //$$



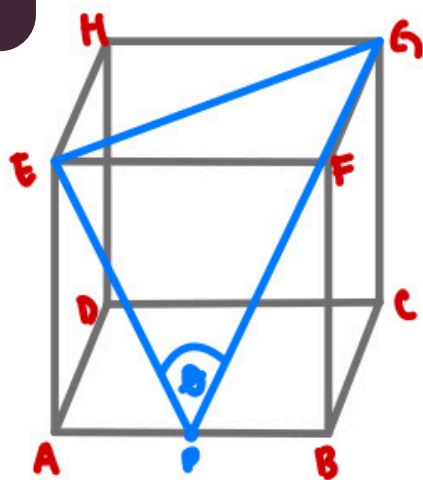
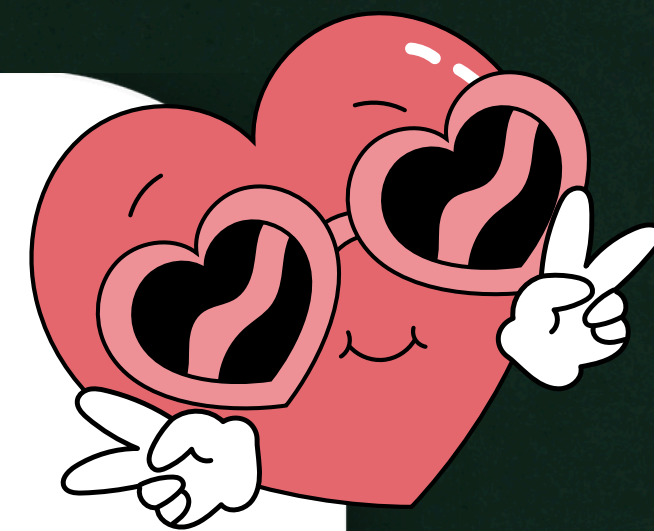

$$EC = 86$$

$$= \frac{169}{3} //$$





GARIS KE GARIS



$$\cos \theta = ?$$

$$EP : a^2 + b^2 = c^2$$

$$4^2 + 8^2 = c^2$$

$$16 + 64 = c^2$$

$$\sqrt{80} = c^2$$

$$4\sqrt{5} = c$$

$$PG : a^2 + b^2 = c^2$$

$$4\sqrt{5}^2 + 8^2 = c^2$$

$$80 + 64 = c^2$$

$$\sqrt{144} = c^2$$

$$12 = c$$

$$\cos \theta : EG^2 = EP^2 + PG^2 - (2 \cdot EP \cdot PG \cdot \cos \theta)$$

$$8\sqrt{2}^2 = 4\sqrt{5}^2 + 12^2 - (2 \cdot 4\sqrt{5} \cdot 12 \cdot \cos \theta)$$

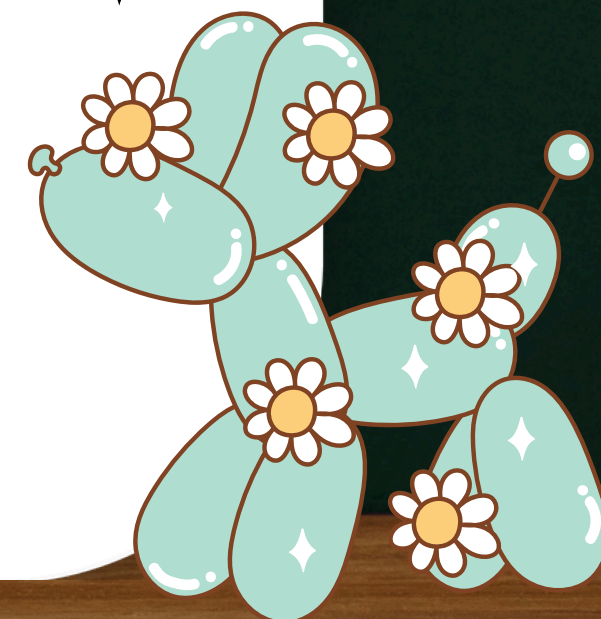
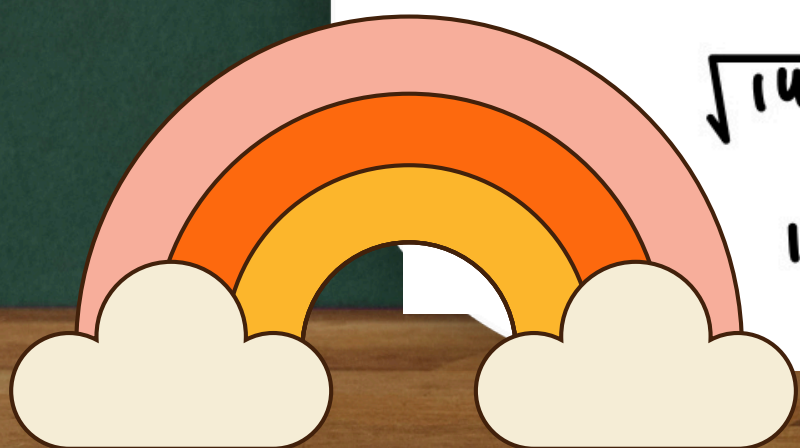
$$128 = 80 + 144 - (96\sqrt{5} \cdot \cos \theta)$$

$$96\sqrt{5} \cdot \cos \theta = 80 + 144 - 128$$

$$\cos \theta = \frac{96}{96\sqrt{5}}$$

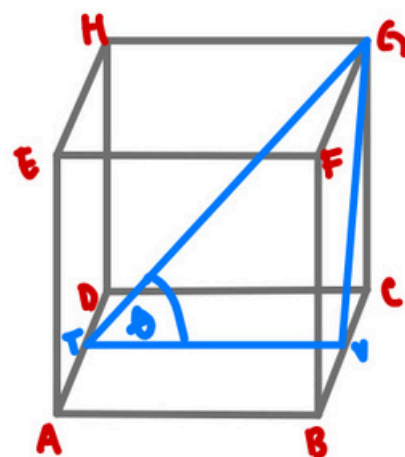
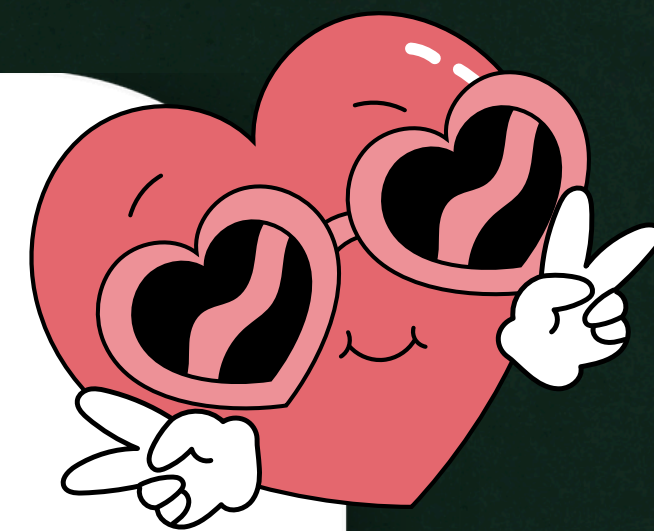
$$= \frac{1}{\sqrt{5}}$$

$$= \frac{\sqrt{5}}{5} //$$





GARIS KE BIDANG



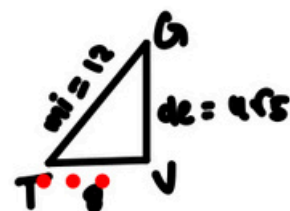
rusuk = 8 cm

T adalah titik tengah AD

θ adalah sudut antara

garis GT dan bidang ABCD

$\sin \theta = ?$



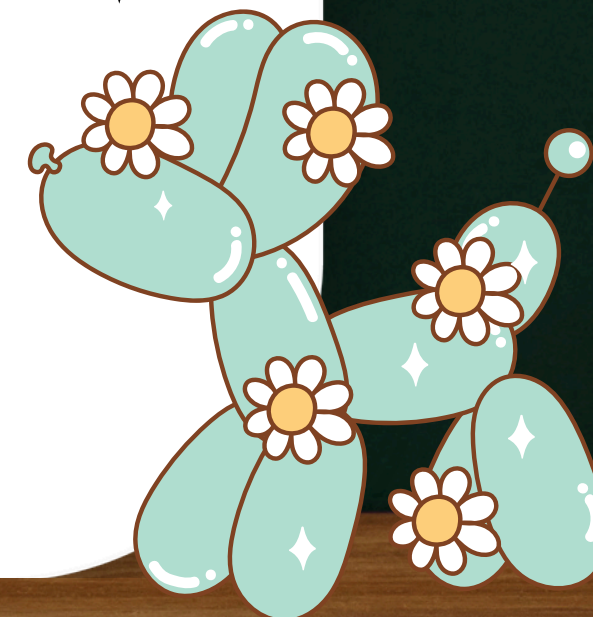
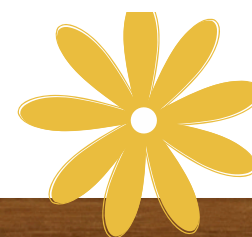
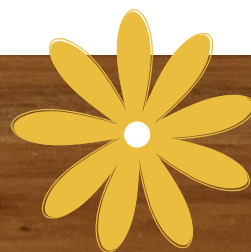
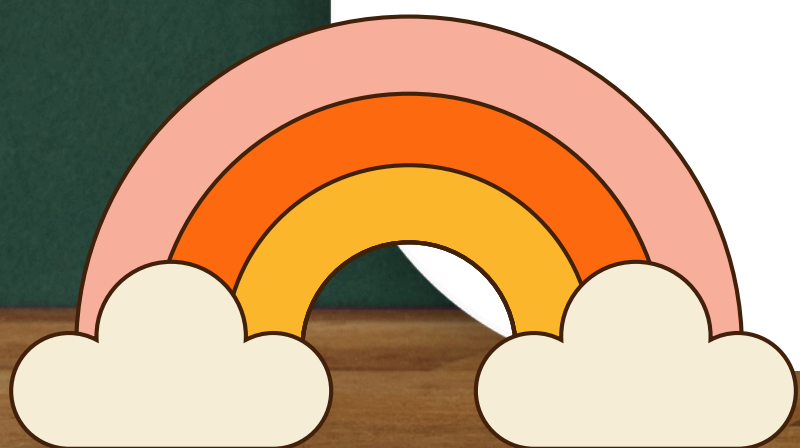
$$mi = \sqrt{8^2 + (4\sqrt{3})^2}$$

$$= 12$$

$$\sin \theta = \frac{de}{mi}$$

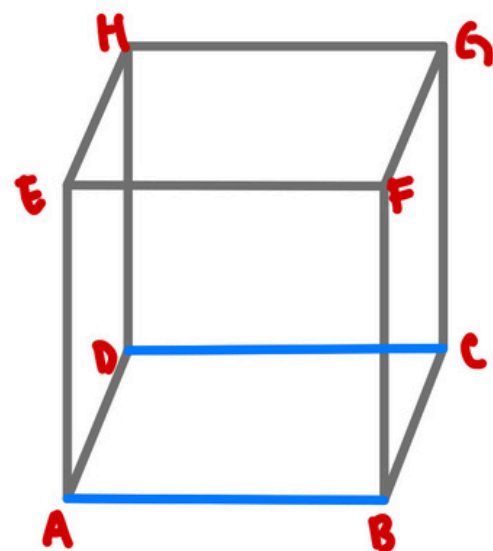
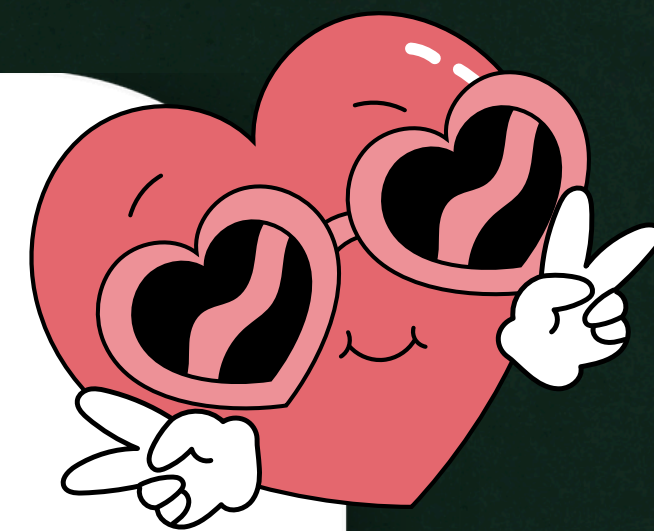
$$= \frac{4\sqrt{5}}{12}$$

$$= \frac{\sqrt{5}}{3}$$

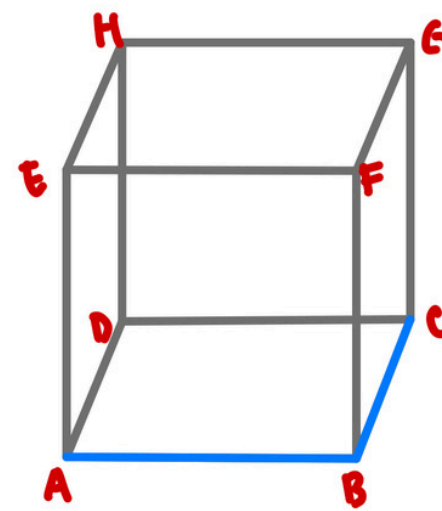




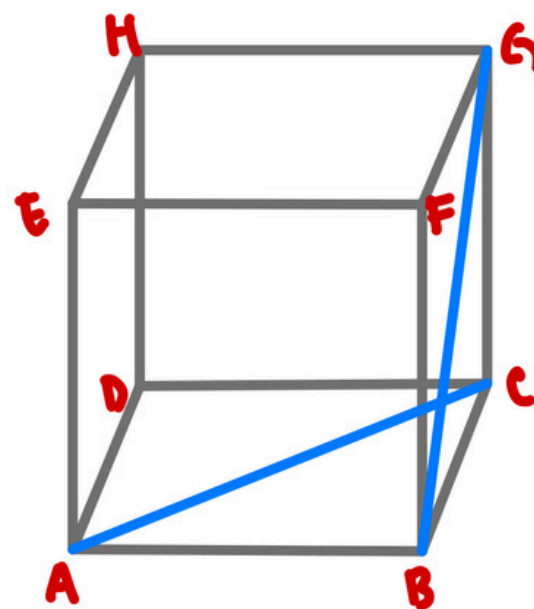
GARIS KE GARIS



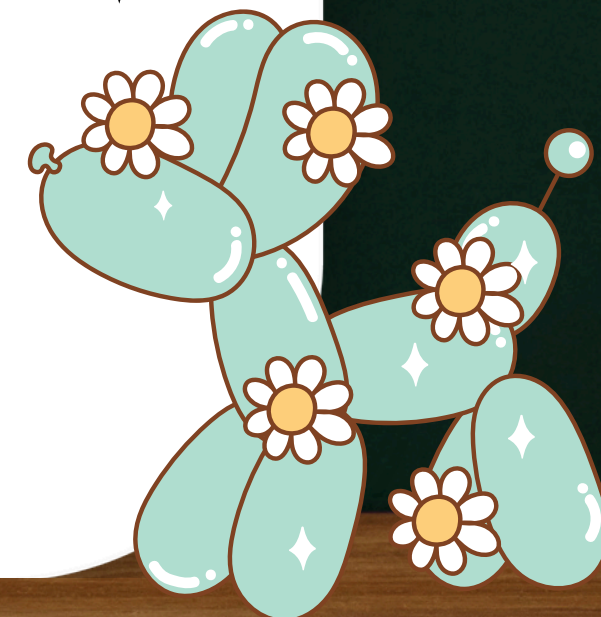
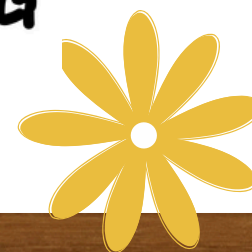
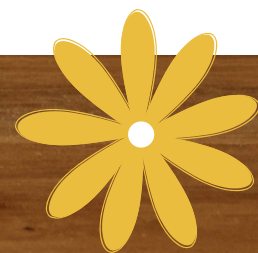
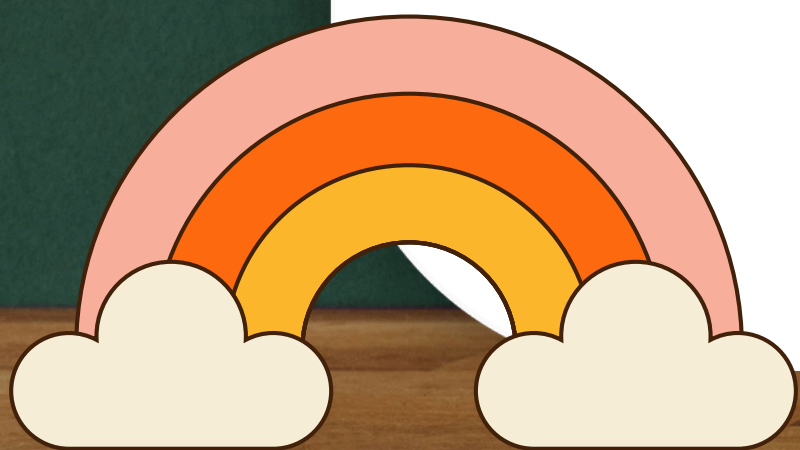
garis AB sejajar dengan DC
.....



garis AB berpotongan dengan BC

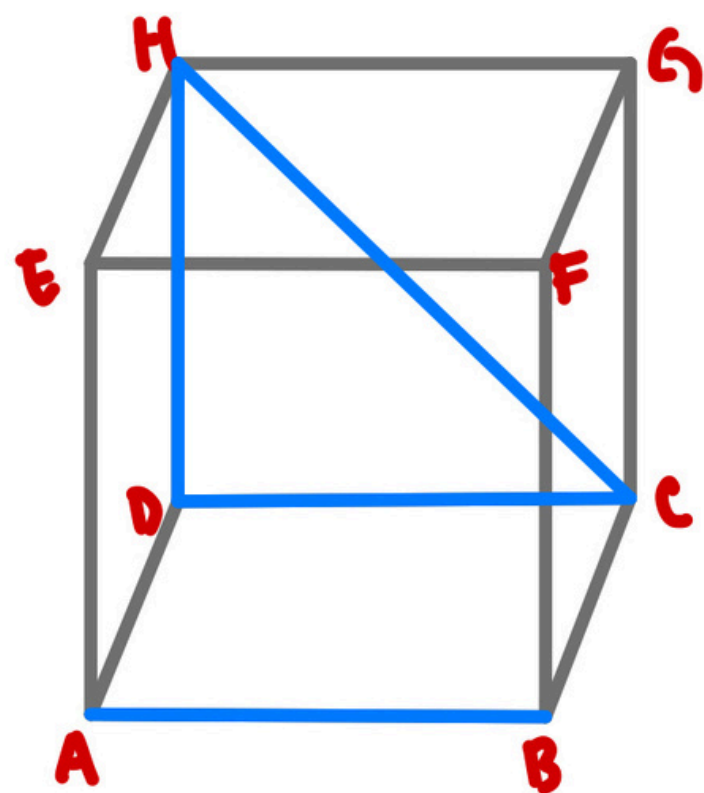
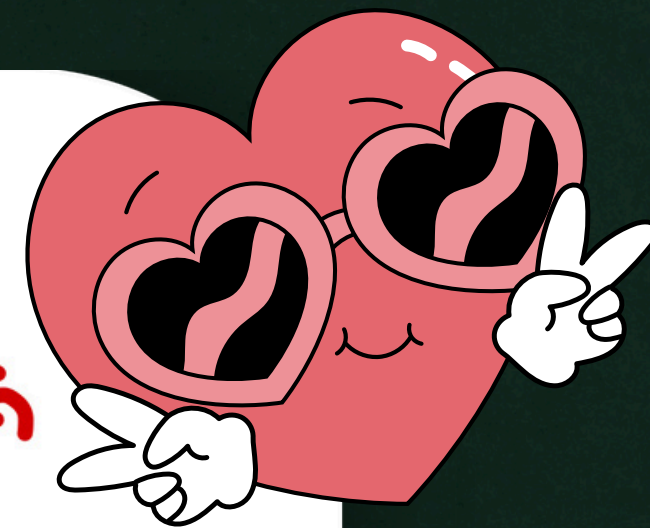


garis AB bersilangan dengan BG

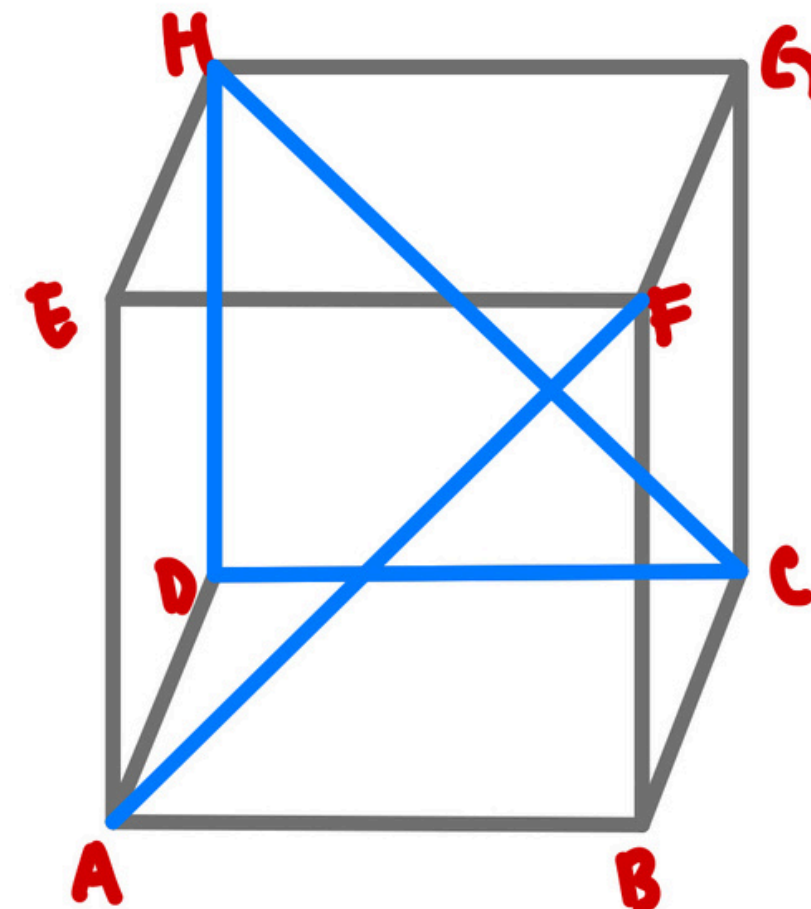




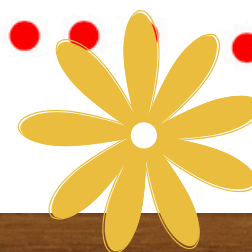
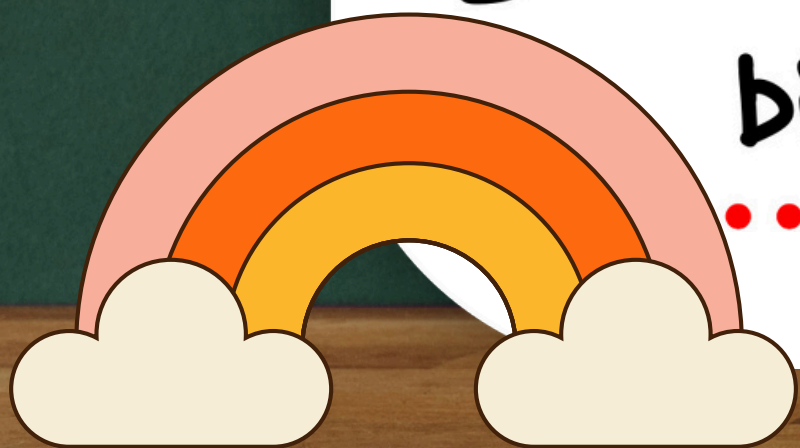
GARIS KE BIDANG

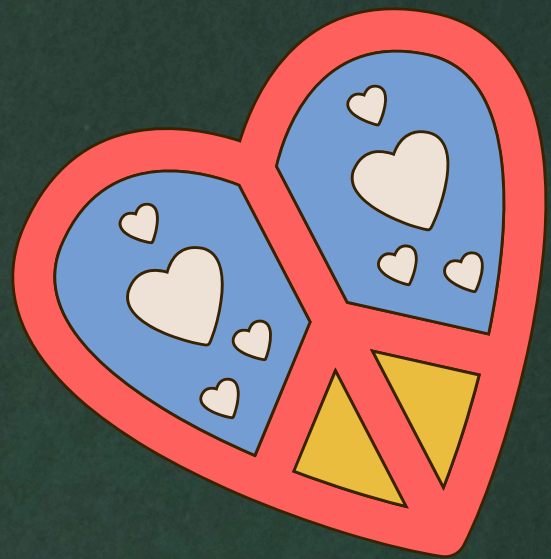


garis AB sejajar dengan
bidang DCH



garis AF berpotongan
dengan bidang DCH





TERIMA KASIH

