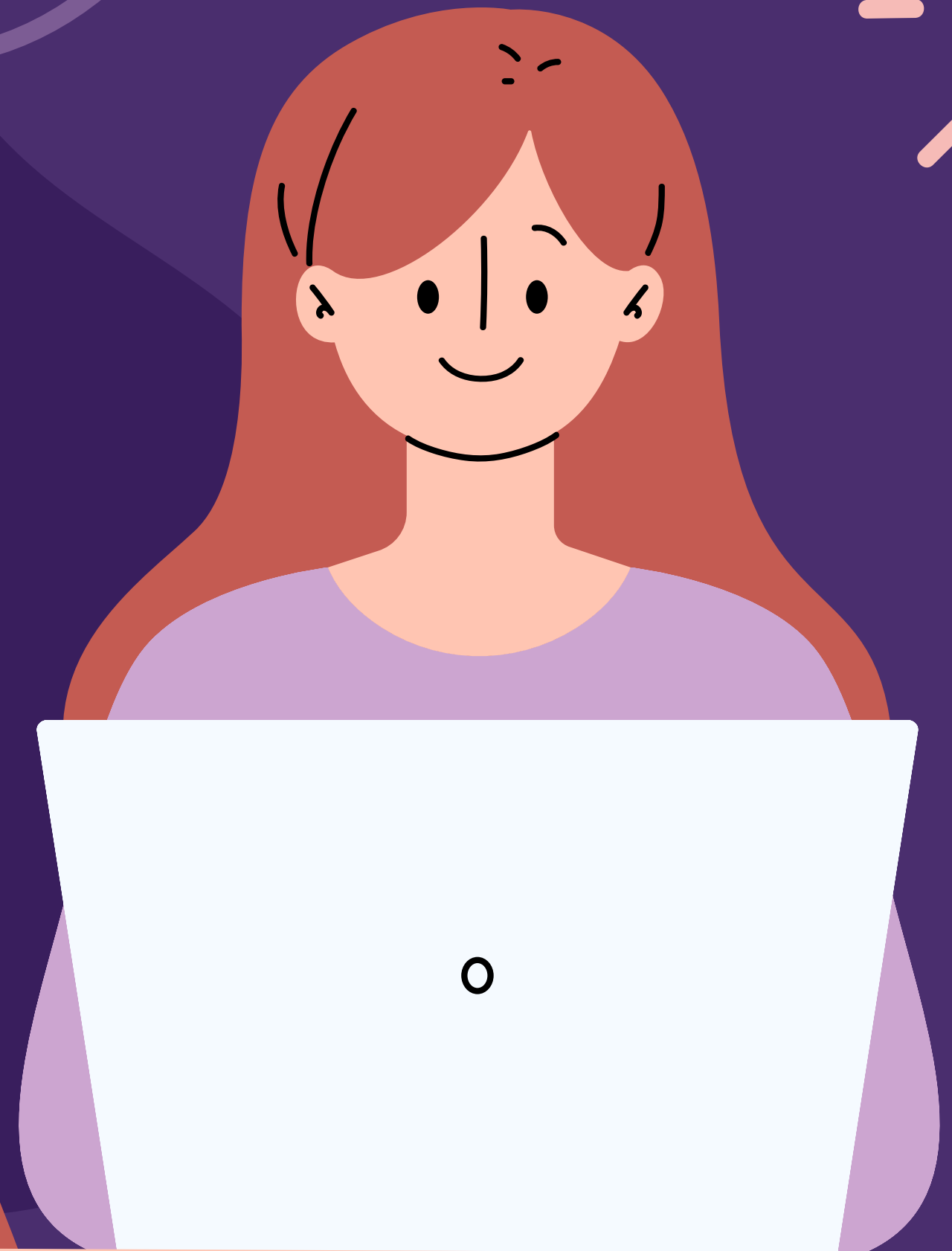




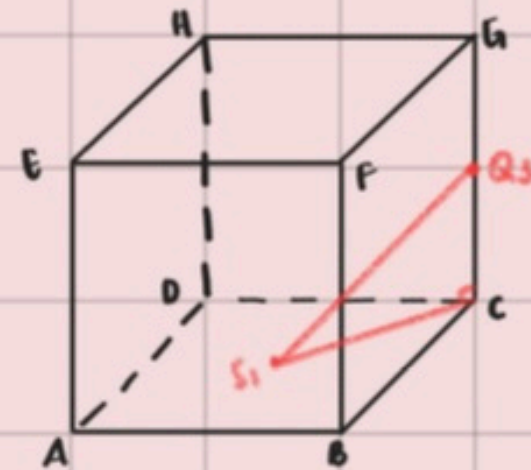
TUGAS MATEMATIKA

Aldo/08, Nelson/09, Angie/16, Kaitlyn/24



NOMER 1

1. Tentukan jarak S_1 ke Q_3 . Rusuk 12 cm



Buat $\triangle S_1Q_3$, sikelus di C

$$S_1C = \frac{1}{2}a\sqrt{2} ; CQ_3 = \frac{1}{2}a\sqrt{1}$$

Pythagoras:

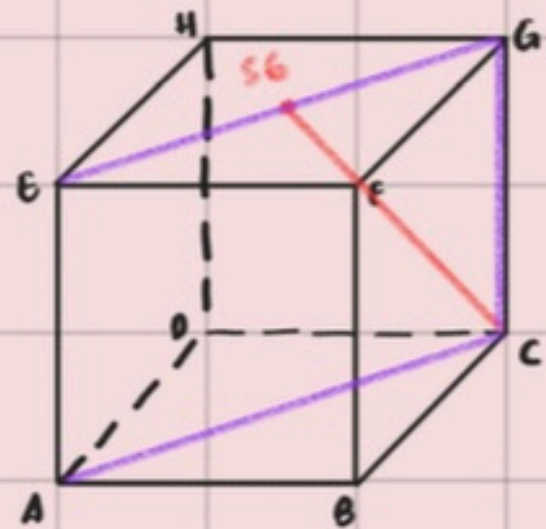
$$S_1Q_3 = \frac{1}{2}a\sqrt{2} \cdot \frac{1}{2}\sqrt{1} = 6\sqrt{3} //$$



NOMER 2

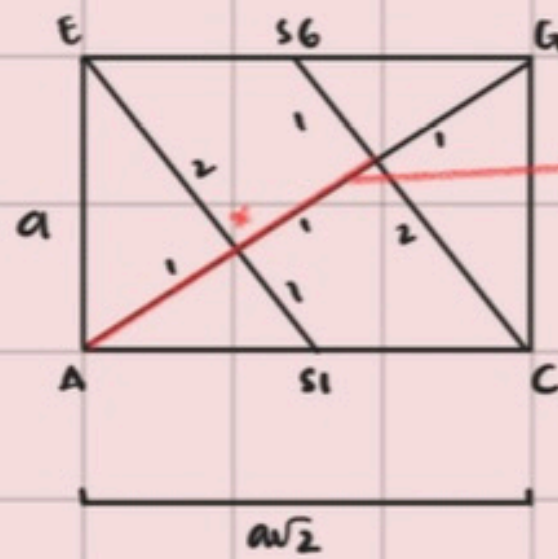


3. Tentukan jarak titik A ke C_{SG} pada kubus ABCD dgn rusuk 10 cm



Buat bidang yg memuat titik A dan $C_{SG} \rightarrow ACGE$

Gambar bidang frontal ACGE



knp ga full garis e?
krm cr e A ke C_{SG}

$$AG = a\sqrt{3}$$

$$= \frac{2}{3} \cdot 10\sqrt{3}$$

$$x = \frac{2}{3} AG$$

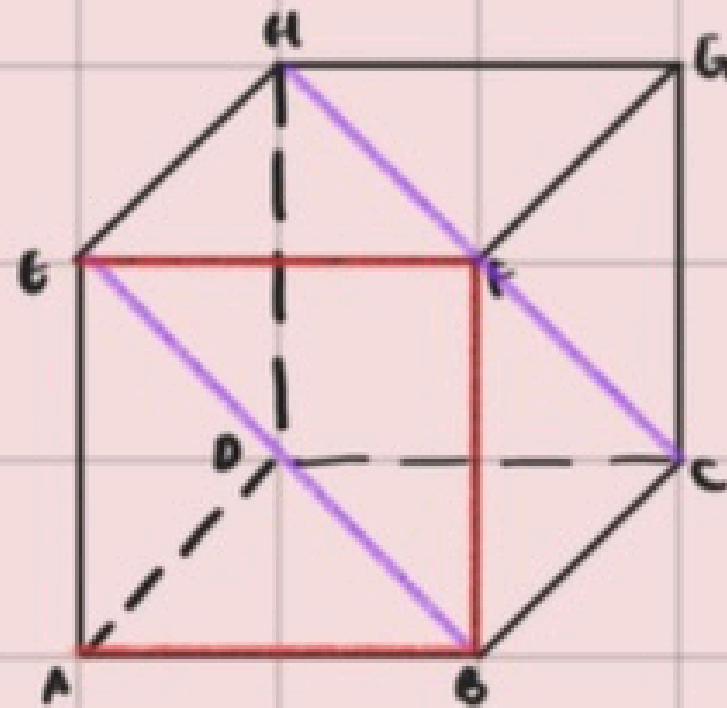
$$= \frac{20}{3}\sqrt{3} \text{ cm}$$

$$= \frac{2}{3} \cdot a\sqrt{3}$$



NOMER 3

5. Tentukan jarak A ke bidang BCHE pada kubus ABCD dgn rusuk 12 cm

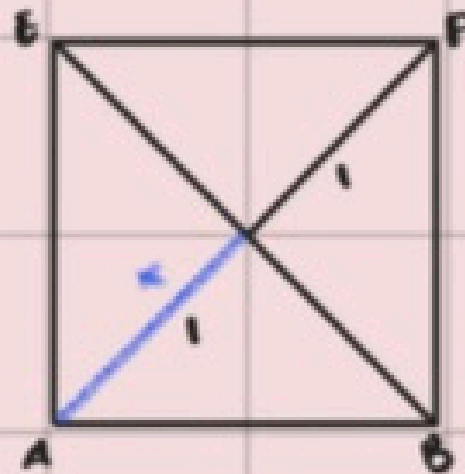


•• Buat bidang yg memuat titik A dan $\perp$ bidang BCHE $\rightarrow$ ABFE

ABFE berpotongan dgn bidang BCHE pd garis BE — gampangny cr aj yg huruf e m

Jarak A ke BCHE : A ke BE

Buat bidang frontal ABFG



$$AF = a\sqrt{2}$$

$$= \frac{1}{2} \cdot 12\sqrt{2}$$

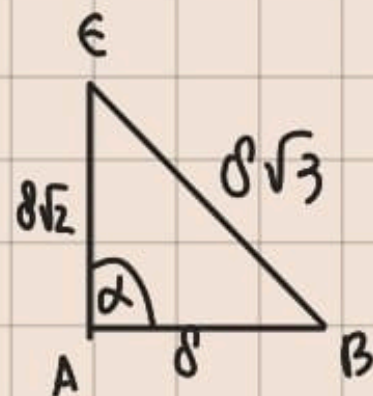
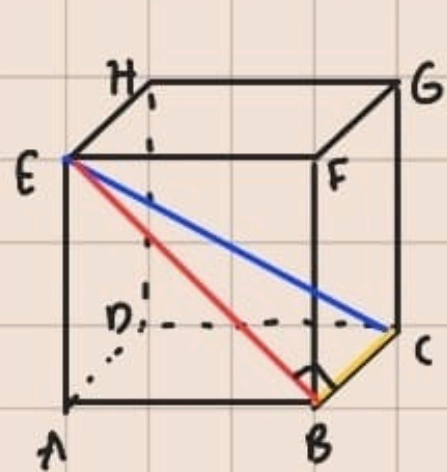
$$x = \frac{1}{2} AF$$

$$= 6\sqrt{2} \text{ cm} //$$

$$= \frac{1}{2} a\sqrt{2}$$

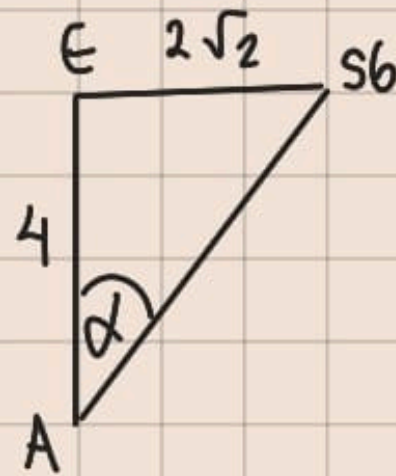
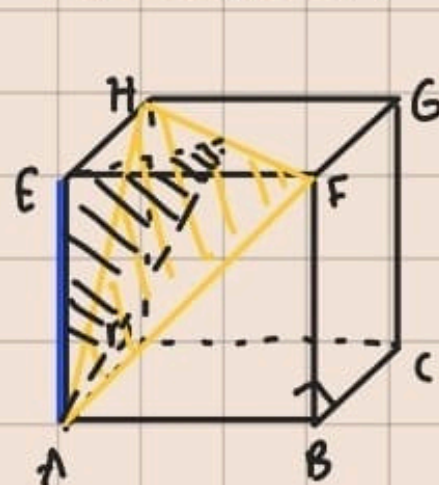


d. Pada kubus ABCD.EFGH. Jika panjang rusuknya 8cm, nilai tan sudut antara garis EC dan garis BC adalah ...



$$\begin{aligned} \tan \angle (EC, BC) \\ &= \frac{EA}{AB} = \frac{8\sqrt{2}}{8} = \sqrt{2} \end{aligned}$$

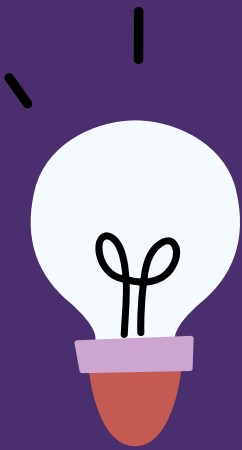
e. Kubus ABCD.EFGH memiliki rusuk 4 cm. Nilai sin α dari sudut antara garis AE dan bidang AFH adalah ...



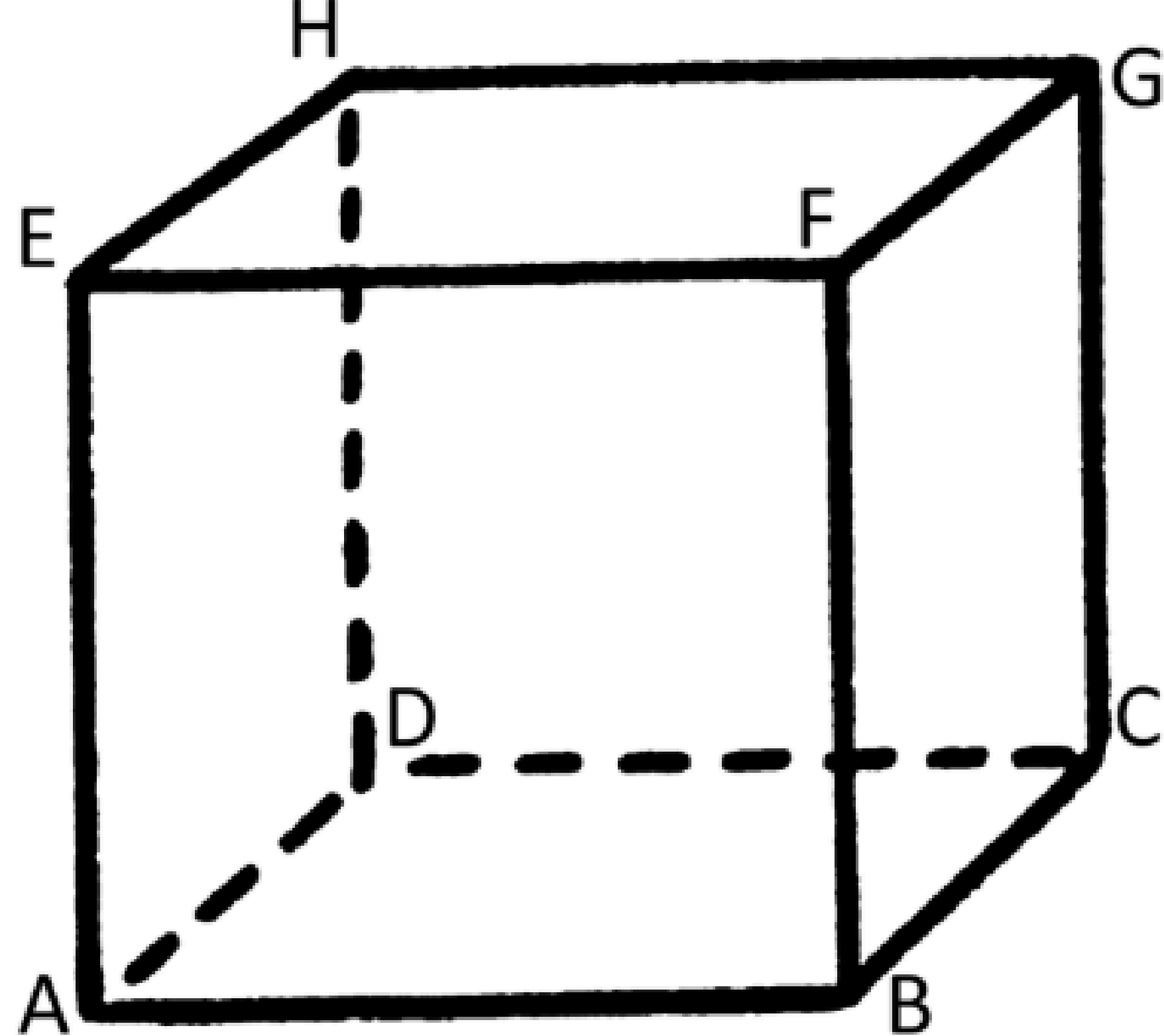
$$\begin{aligned} \text{Carilah } AS_6: \\ AS_6 &= \sqrt{AE^2 + EP^2} \\ &= \sqrt{4^2 + (2\sqrt{2})^2} \\ &= \sqrt{16 + 8} \\ &= \sqrt{24} \\ &= 2\sqrt{6} \end{aligned}$$

$$\begin{aligned} \sin \angle (AE, AFH) \\ &= \frac{de}{mi} = \frac{EP}{AP} = \frac{2\sqrt{2}}{2\sqrt{6}} = \frac{1}{\sqrt{3}} \end{aligned}$$

NOMER 4 & 5



NOMER 6 & 7



Pada kubus ABCD.EFGH jika S_6 adalah titik pusat bidang EFGH dan O titik pusat kubus maka tentukan hubungan garis dengan garis dan garis dengan bidang di bawah ini adalah...

- f) AO dan HB (berpotongan)
- g) S_6 A dan BCGF (sejajar)

