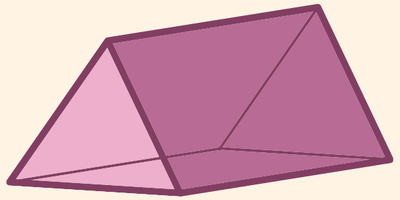
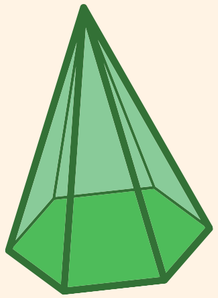
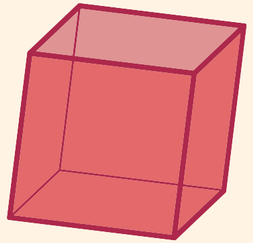
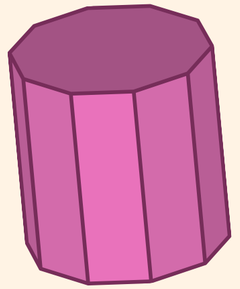
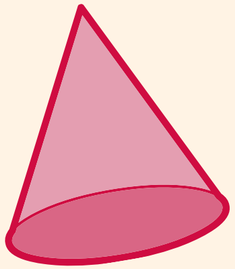
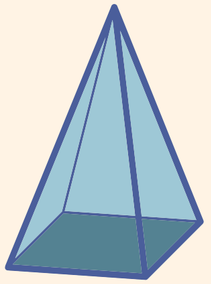
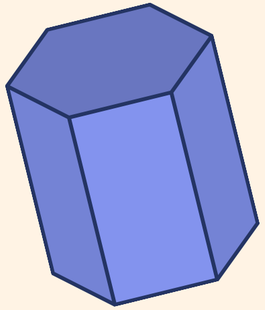
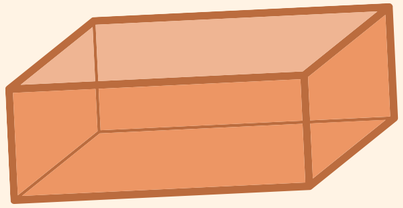
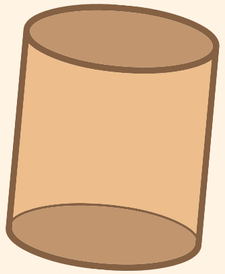
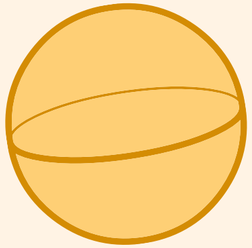






Dimensi 3

Anggota

Alenira Evangelyn / 02

Evelyn Hudoyo / 13

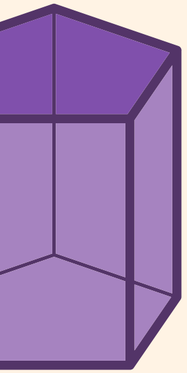
Jennifer Marcella / 16

Karmel Anastasia / 22

XIIMIPA8

Soal-Soal:

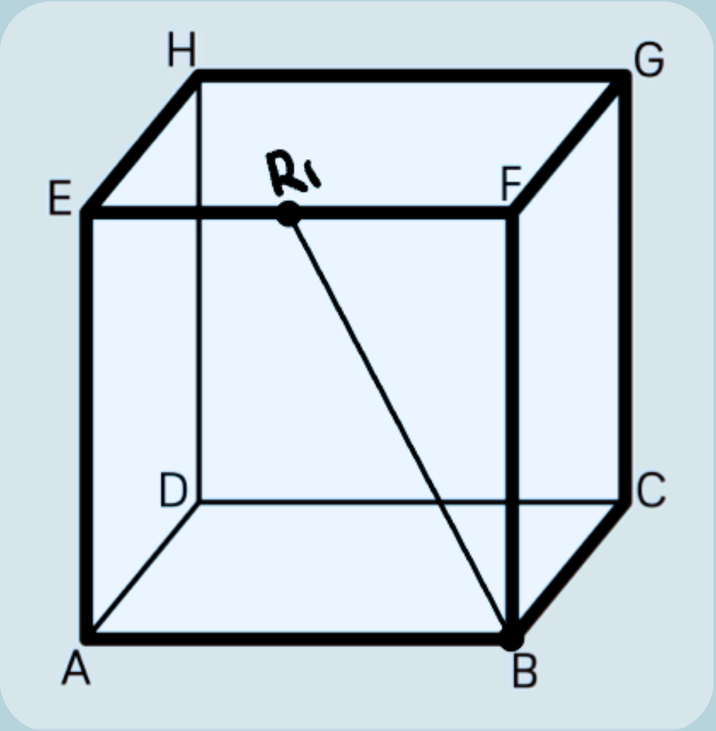
- Buktikan Garis BR1 ⊥ DS3
- Jarak titik Q2 ke Titik P1
- Jarak B ke DF
- Jarak Titik H ke Bidang ACGE
- Jarak Garis ES4 ke Garis CS2
- Jarak Garis AH ke Garis BC
- Proyeksi Garis BS6 pada Garis BD
- Proyeksi EA pada EBD

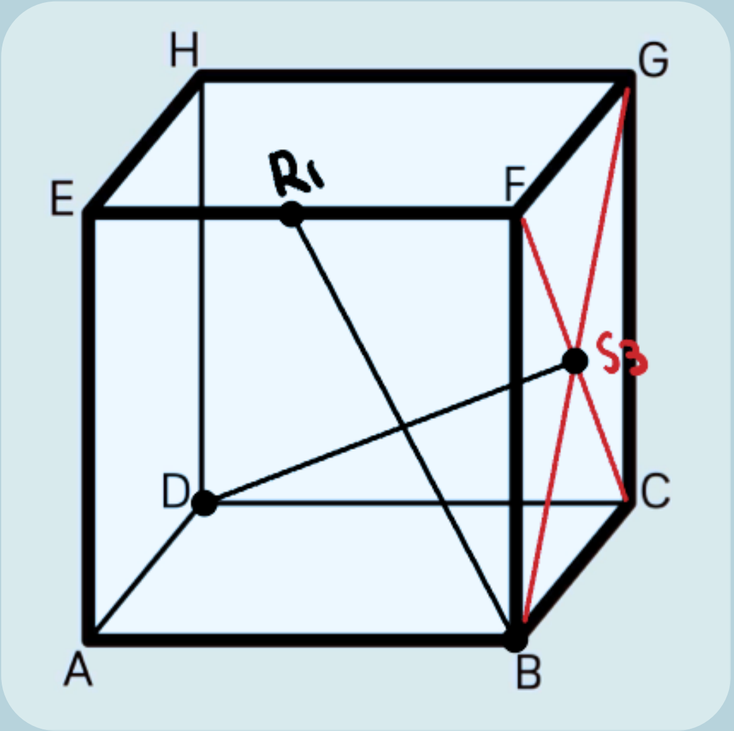


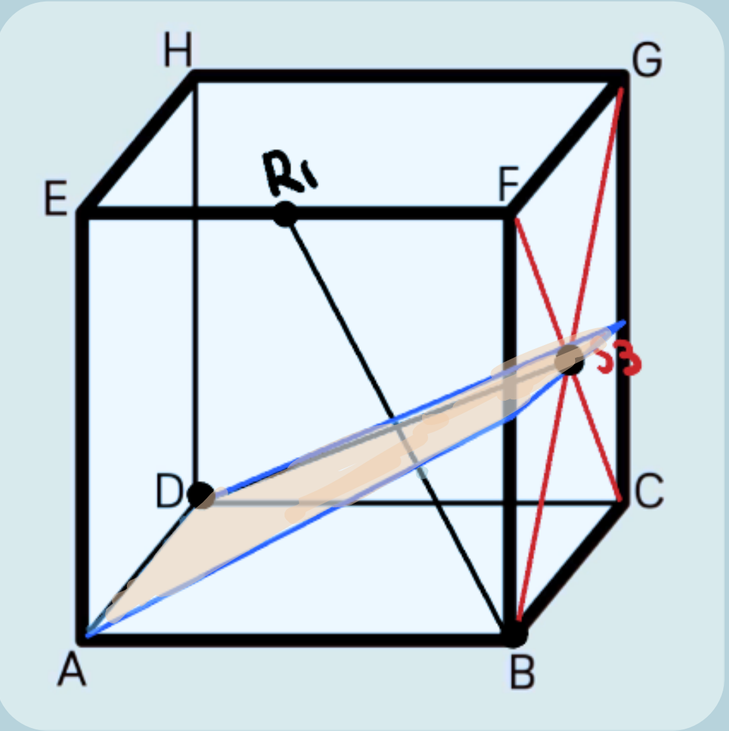
PENYELESAIAN

Buktikan $BR_1 \perp DS_3$!

- BR1 pada ABFE
- DS3 pada ADQ2Q3







Buktikan $BR_1 \perp DS_3$!

- AD ⊥AB
- AD ⊥ AE

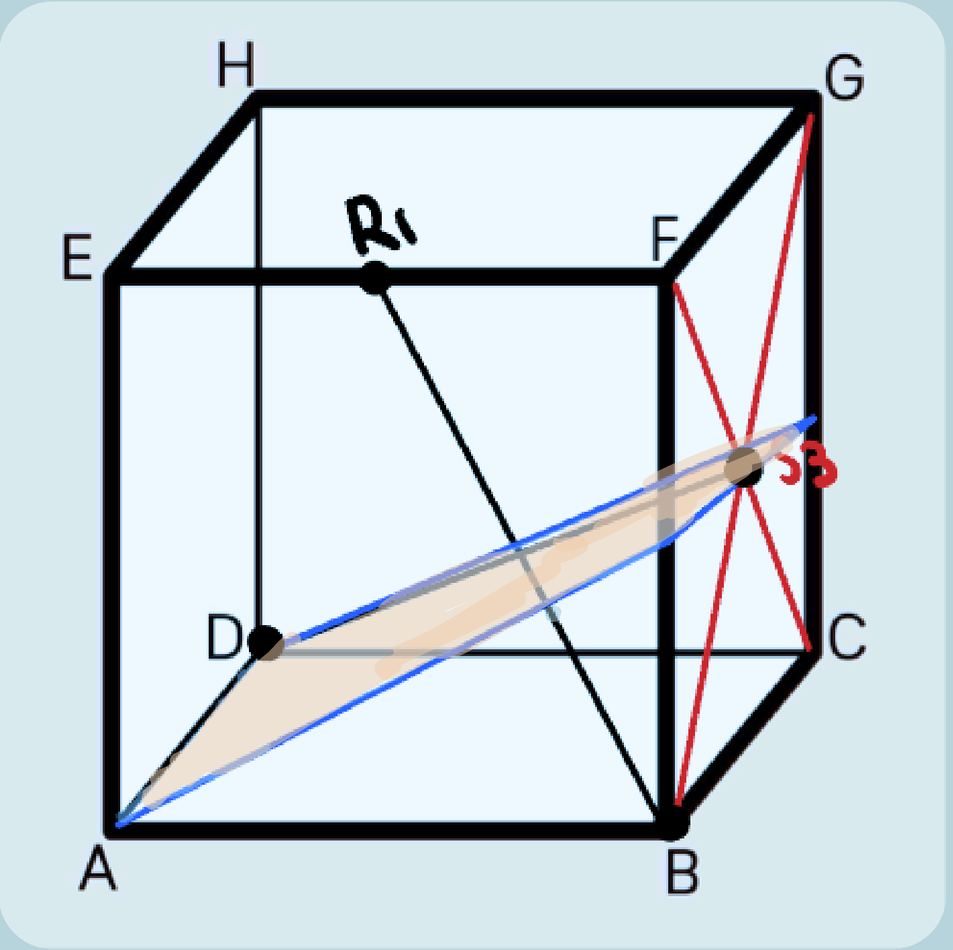
} AD ⊥ ABFE

AD ⊥BR1

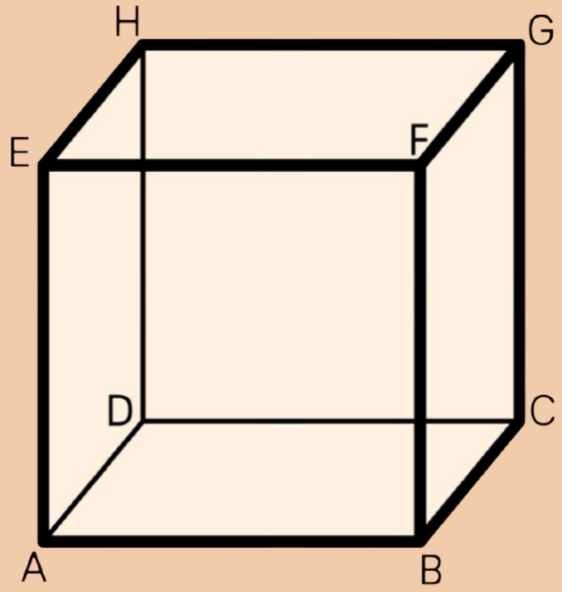
- BR1 ⊥ AD
- BR1 ⊥ AQ2

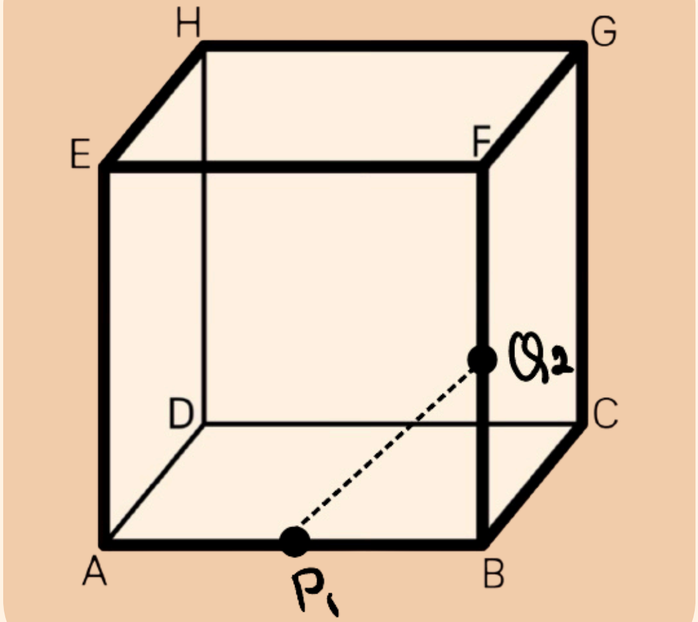
} BR1⊥ ADQ2Q3

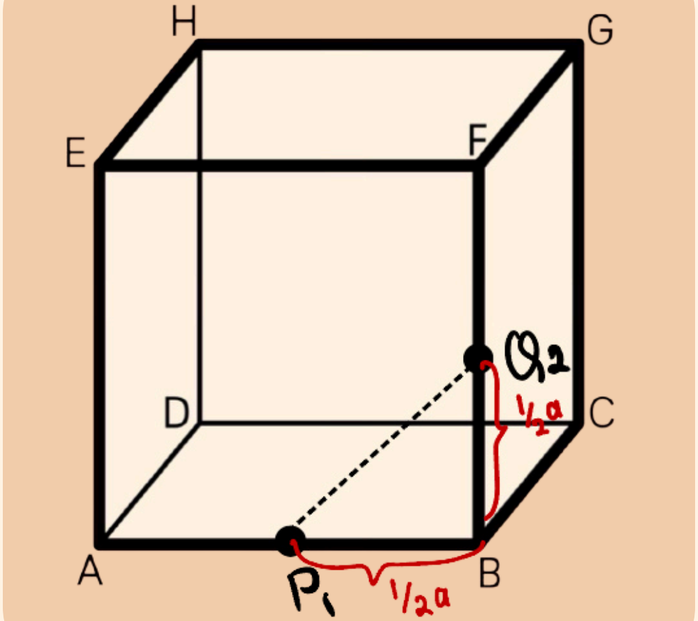
BR1 ⊥ DS3 (terbukti)



Tentukan jarak Q_2 ke P_1

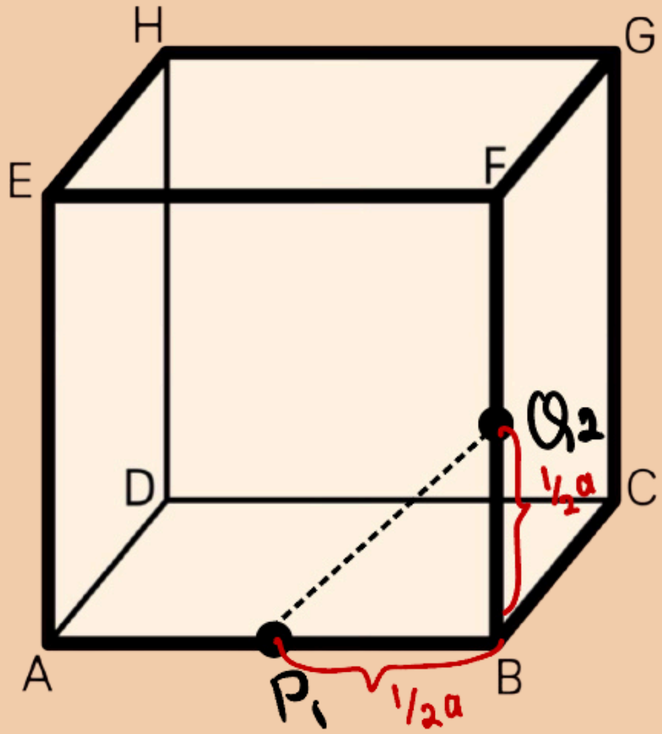






Jarak garis AH’ dan garis BC = P2 ke P4 = a

Tentukan jarak Q_2 ke P_1

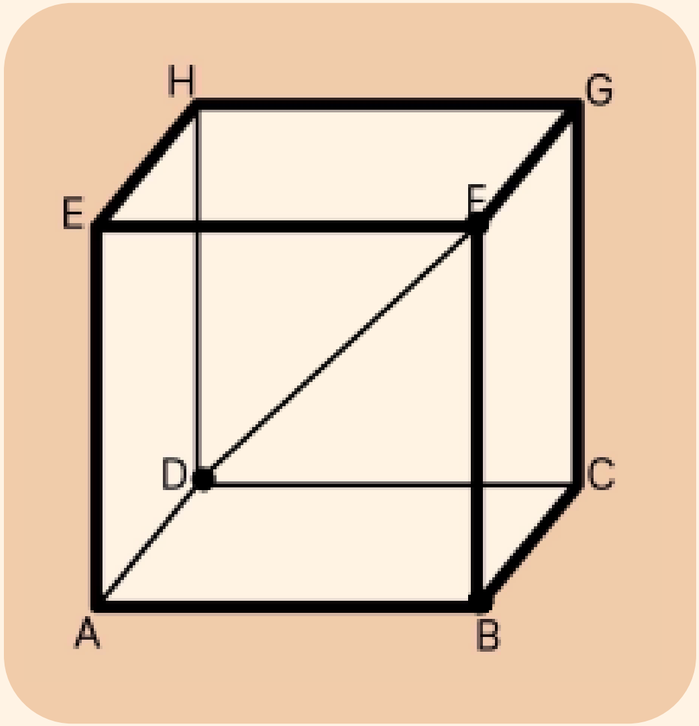


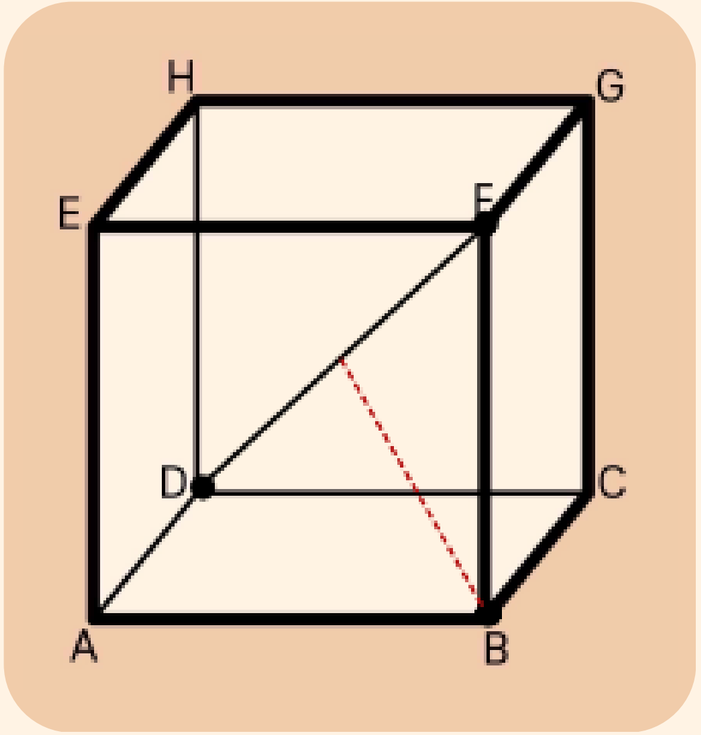
$$ES1 = \sqrt{\left(\frac{1}{2a}\right)^2 + \left(\frac{1}{2a}\right)^2}$$

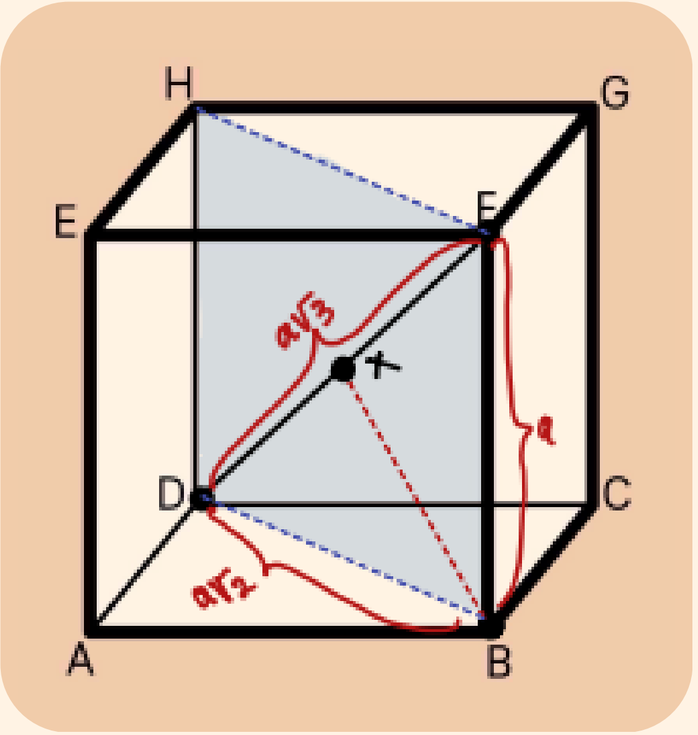
$$= \sqrt{\left(\frac{1}{4a^2} + \frac{1}{4a^2}\right)}$$

$$= \sqrt{\frac{2}{4a^2}} = \frac{1}{2a}\sqrt{2}$$

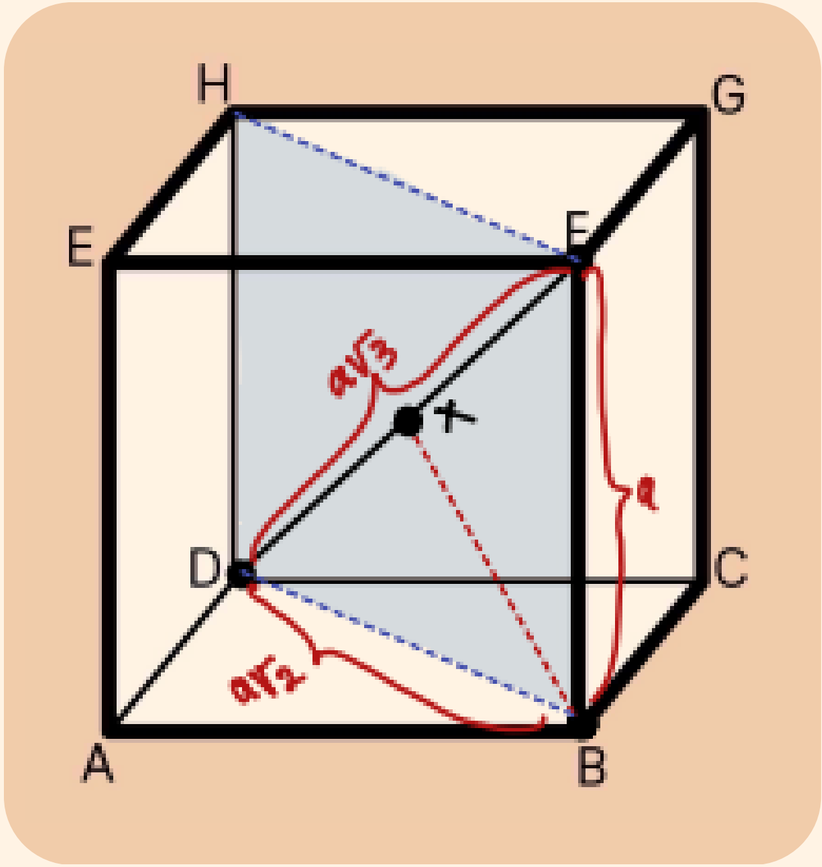
Jarak Titik B ke Garis DF







Jarak Titik B ke Garis DF



$$L1 = L2$$

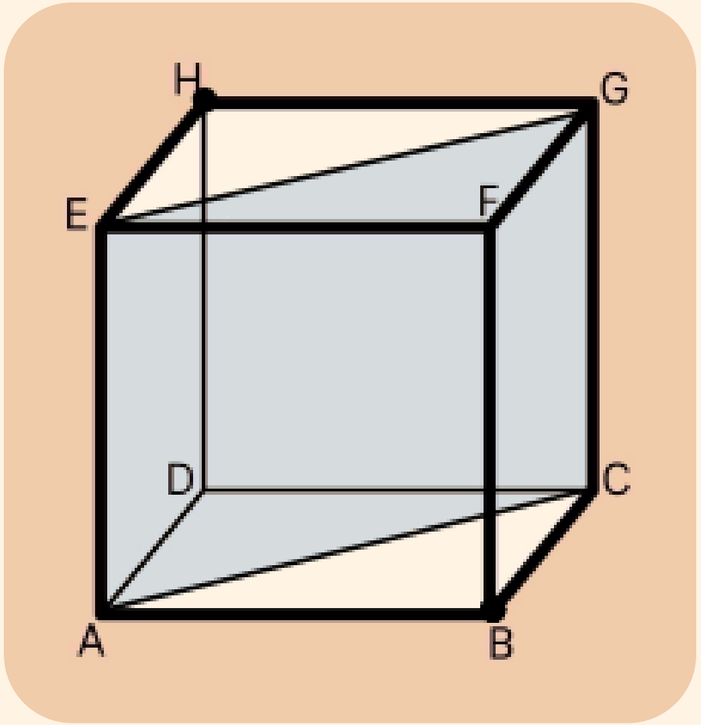
$$DB \times FB = BX \times DF$$

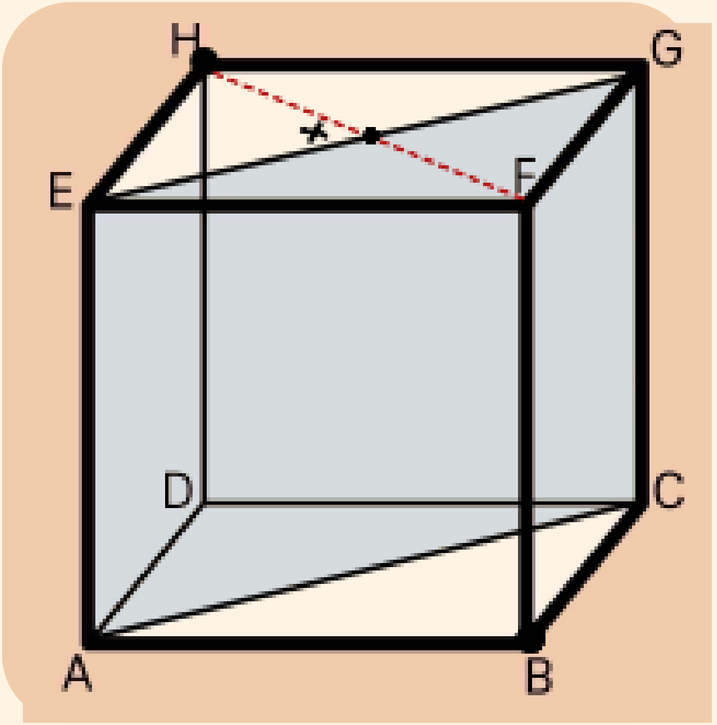
$$a\sqrt{2} \times a = BX \times a\sqrt{3}$$

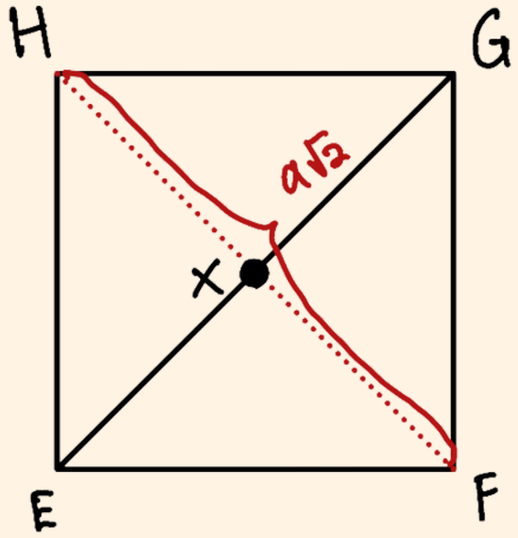
$$BX = \frac{a\sqrt{2}}{\sqrt{3}}$$

$$BX = \frac{1}{3}\, a\sqrt{6}$$

Jarak Titik H ke Bidang ACGE





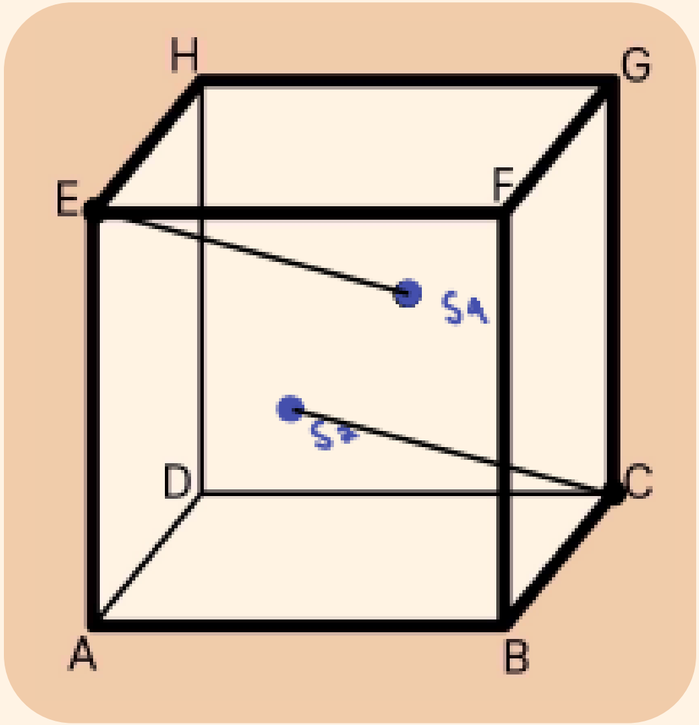


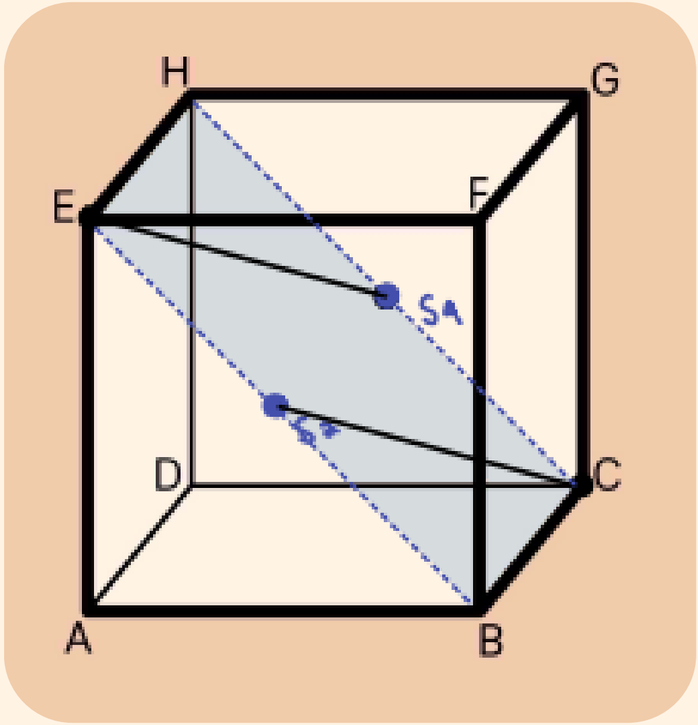
Jarak H ke ACGE = 1/2 HF

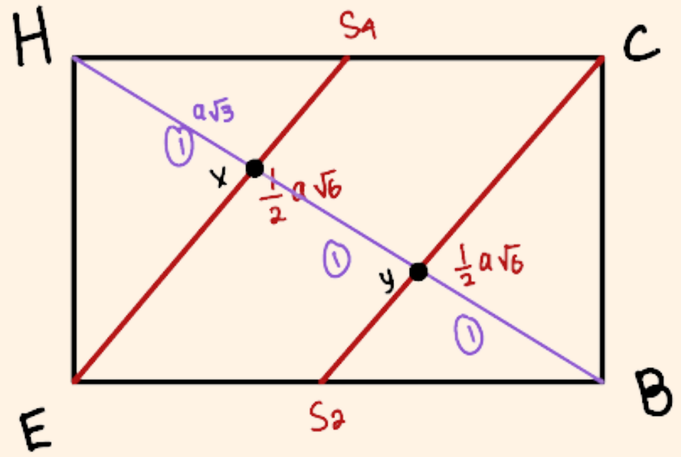
= 1/2 a√2

*HF = a√2 (diagonal sisi)

Jarak Garis ES4 ke Garis CS2





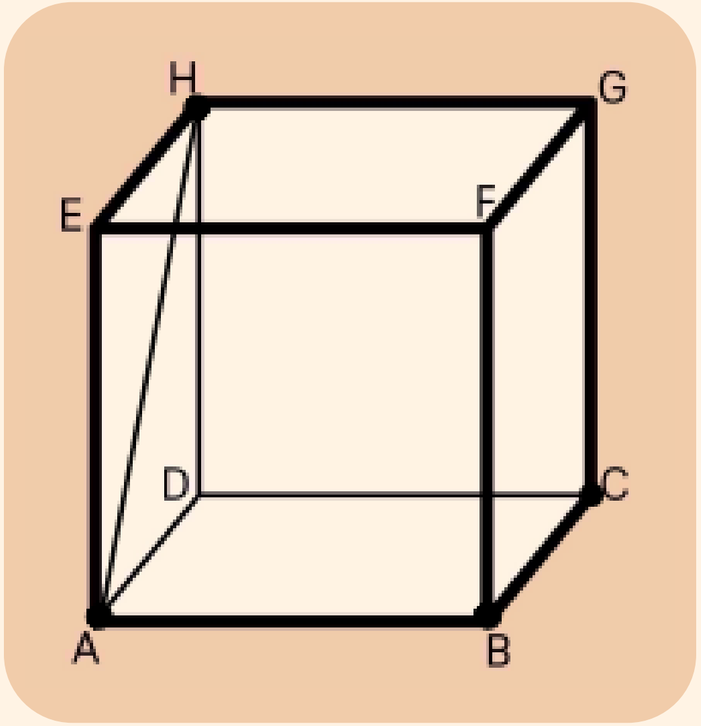


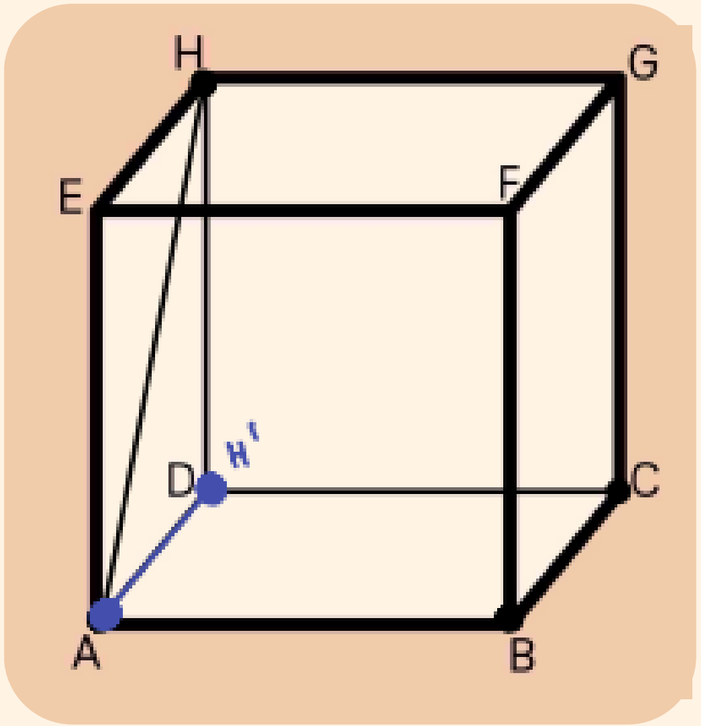
Jarak ES4 ke CS2 = XY = 1/3 HB

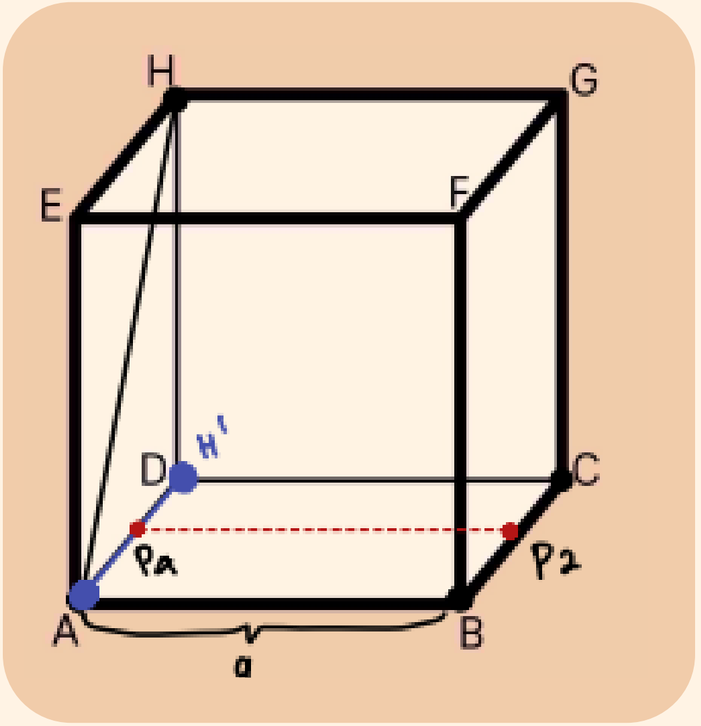
= 1/3 a√3

*HB = a √3 (diagonal ruang)

Jarak Garis AH dengan Garis BC





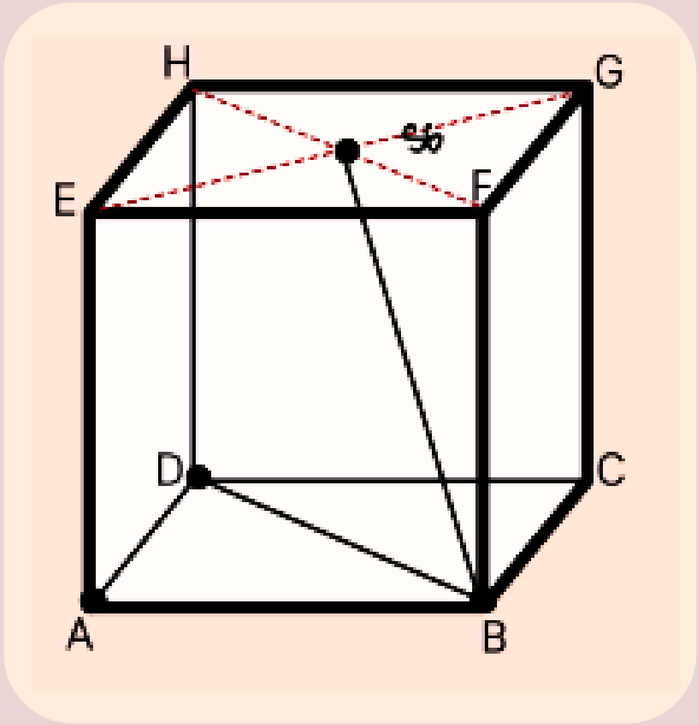


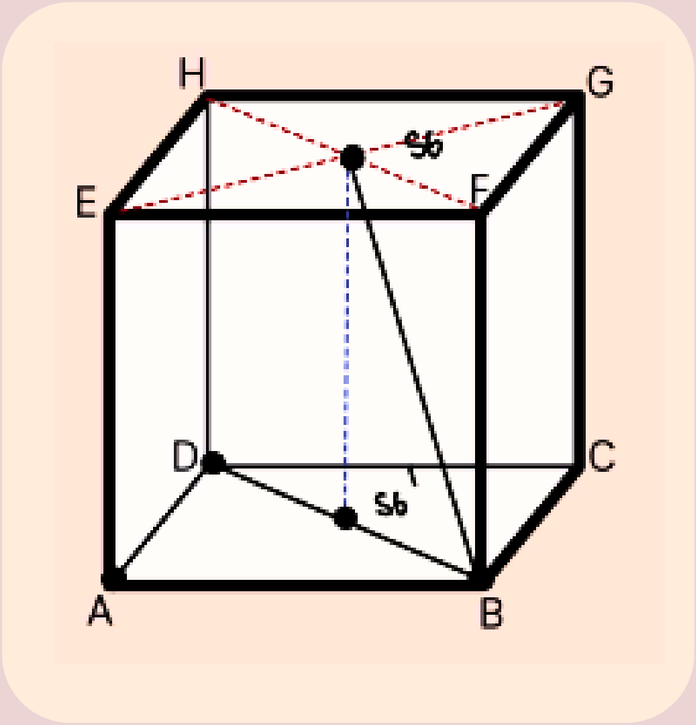
Jarak AH' pada BC = P2 ke P4 = AB

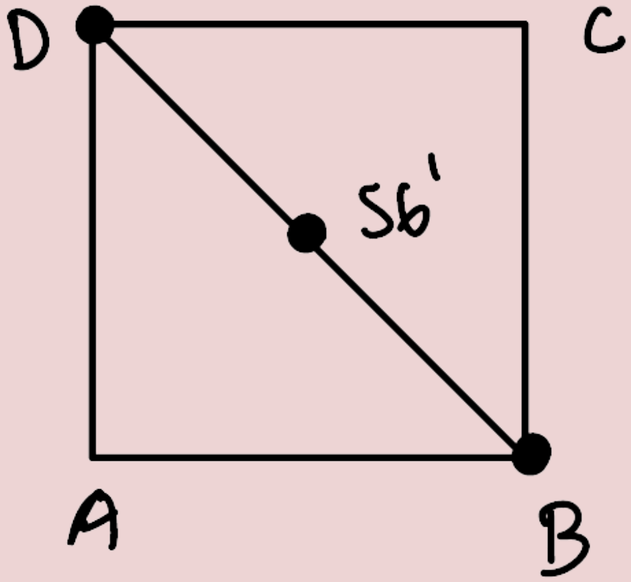
= a (sejajar, rusuk sama)

(tengah rusuk yang berseberangan)

Proyeksi Garis BS6 pada garis BD





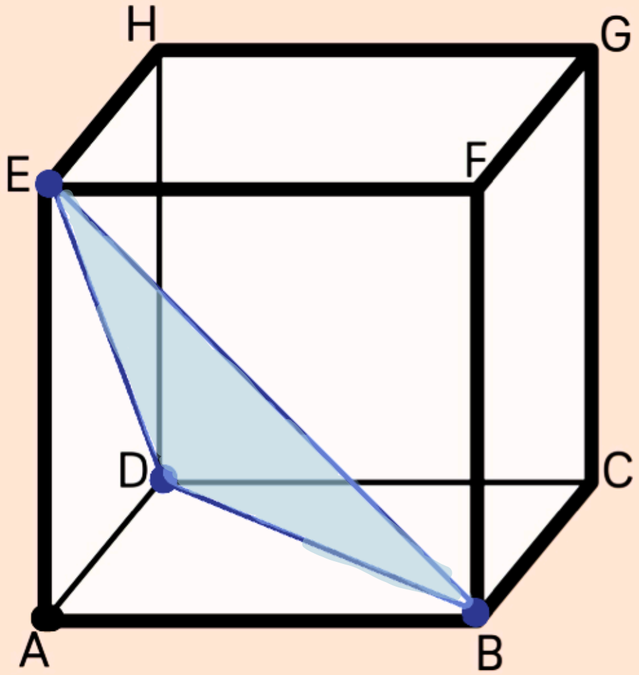


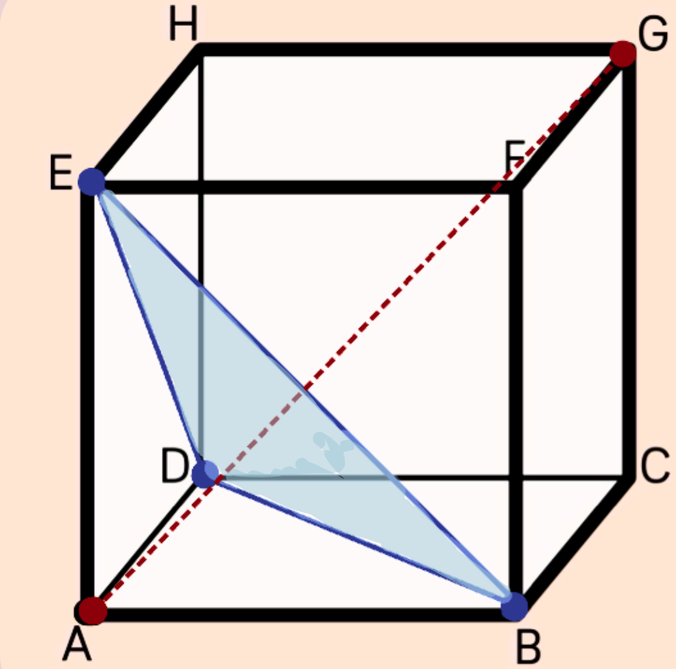
Jarak BS6 pada BD = BS6' = 1/2 BD

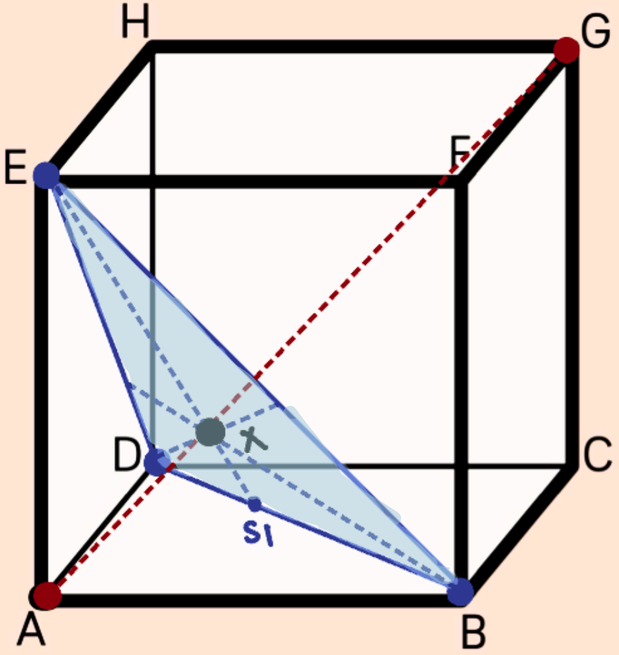
= 1/2 a$\sqrt{2}$

*DB = a$\sqrt{2}$ (diagonal sisi)

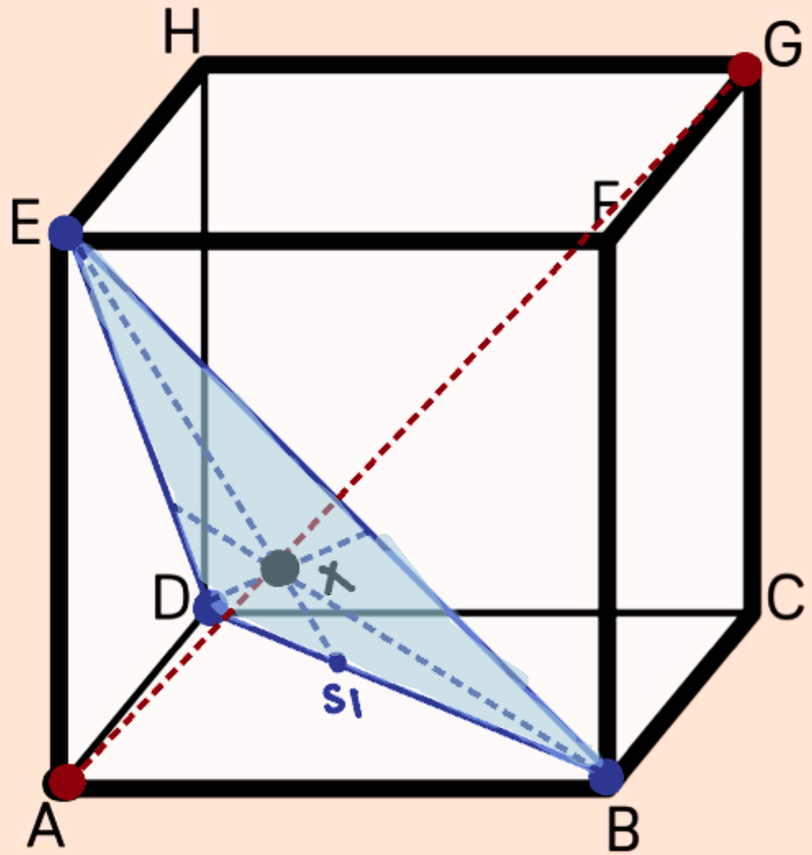
Proyeksi Garis EA ke Bidang EBD

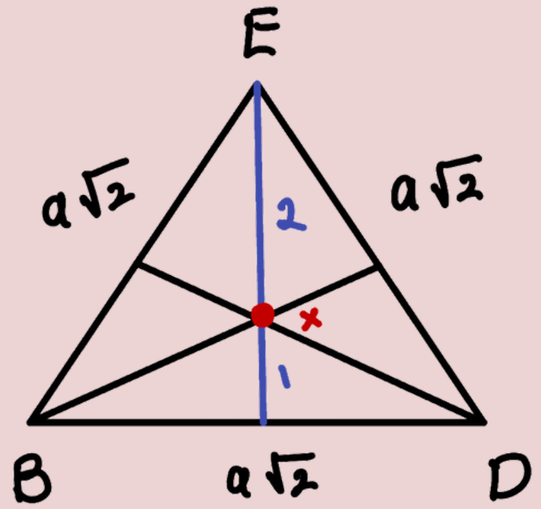






Proyeksi Garis EA ke Bidang EBD





- ES1 $= \sqrt{(a^2 + (1/2a\sqrt{2}))^2}$
  $= \sqrt{(a^2 + (1/2a\ ))^2}$
  $= \sqrt{(3/2a^2)}$
  $= \sqrt{(3/2a^2)}$
  $= 1/2a\sqrt{6}$

- EX = 2/3 ES1
  = 2/3 x 1/2 $a\sqrt{6}$
  = $1/3a\sqrt{6}$

Terima Kasih