XII MIPA 3

DIMENSI 3

Gabriella Esther Lauwson / 11
Maria Mulia Sukacita H./ 24
Michelle Olivia Muliono Putri / 25
Rafaela Princess A. S. / 28

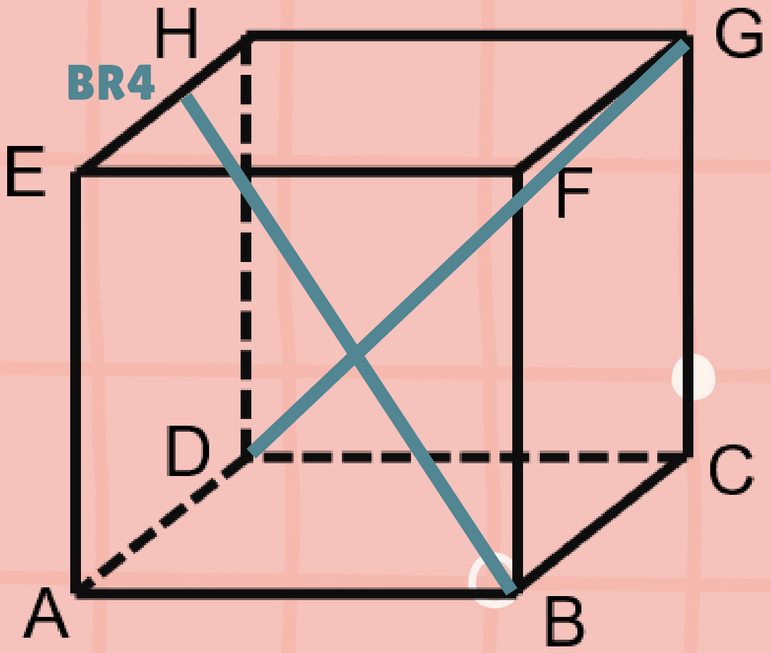
KETEGAKLURUSAN DUA GARIS

Buktikan BR4 ⊥ DG

DG ⊥ CH
DG ⊥ BC
} BERPOTONGAN DI C

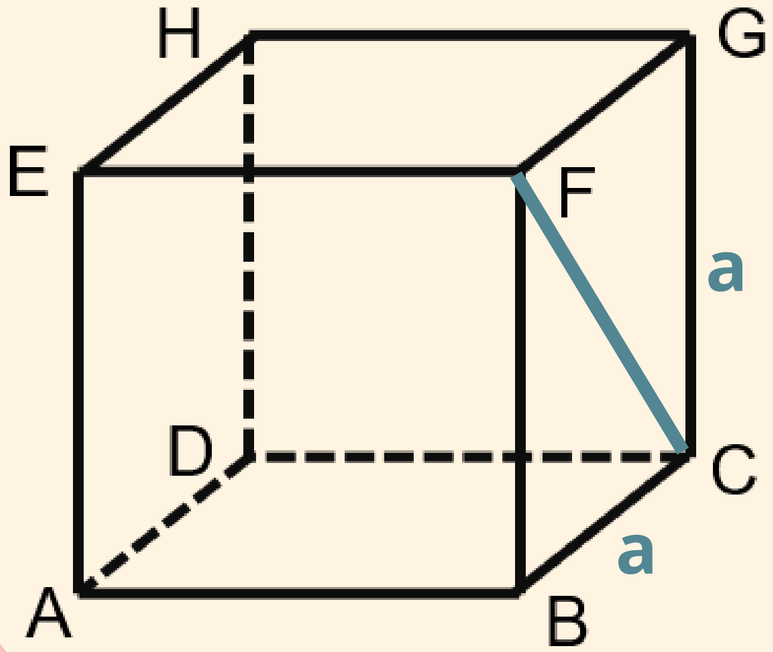
DG ⊥ BIDANG BCHE
DG ⊥ SEMUA GARIS BCHE

DG ⊥ BR4



JARAK TITIK KE TITIK

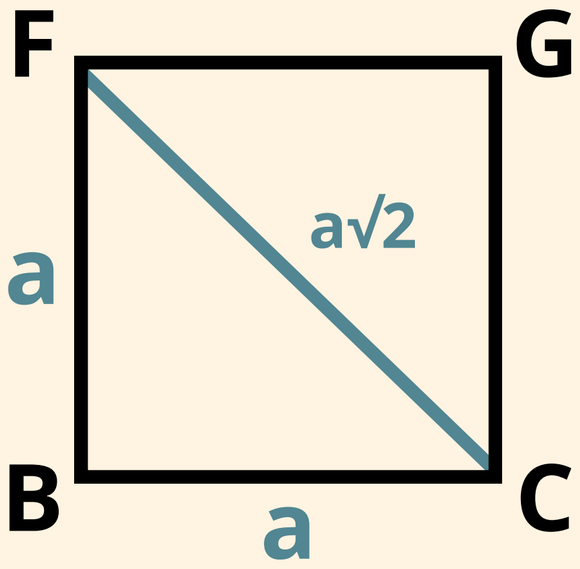
Tentukan jarak titik F ke titik C



$$FC = \sqrt{a^2 + a^2}$$

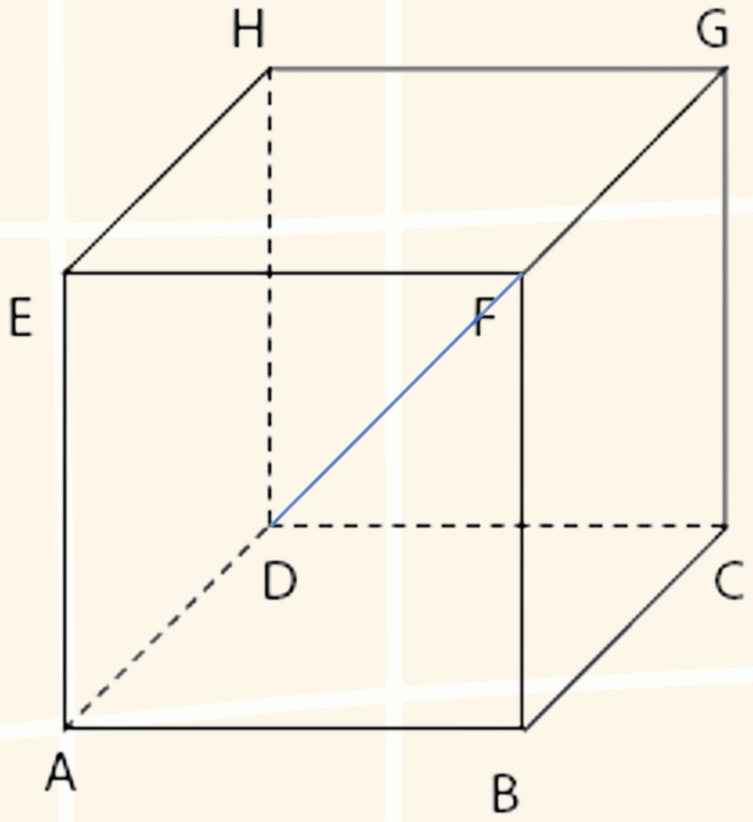
$$FC = \sqrt{2a^2}$$

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

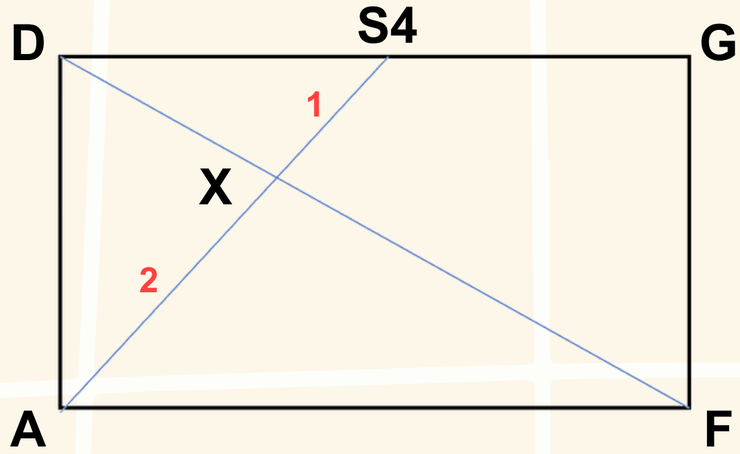


JARAK TITIK KE GARIS

Tentukan jarak A ke DF



DF ⊥ HS1
DF ⊥ AS4



$$AS4 = \sqrt{(\frac{1}{2}a\sqrt{2})^2 + a^2}$$

$$AS4 = \sqrt{\frac{1}{2}a^2 + a^2}$$

$$AS4 = \frac{1}{2}a\sqrt{6}$$

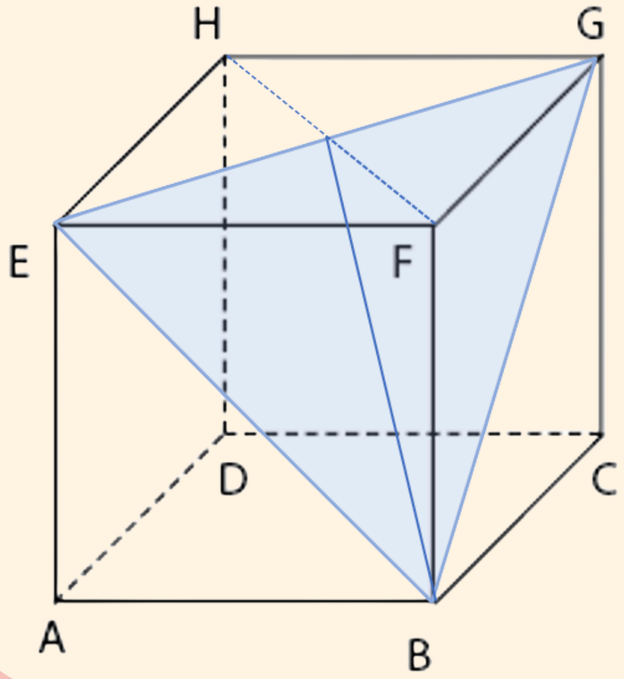
$$AX = \frac{2}{3}\,AS4$$

$$AX = \frac{2}{3}.\frac{1}{2}a\sqrt{6}$$

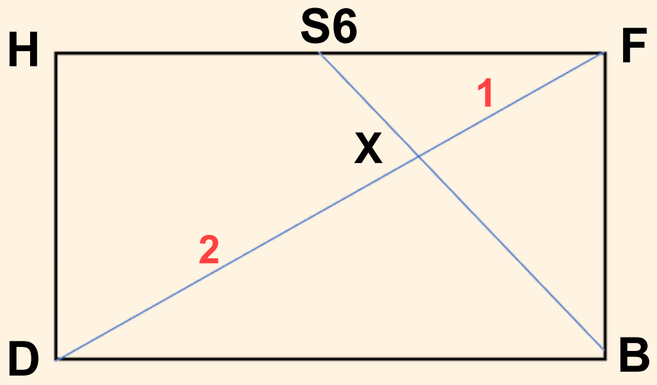
$$AX = \frac{1}{3}a\sqrt{6}$$

JARAK TITIK KE BIDANG

Tentukan jarak F ke bidang BEG



DF ⊥ BS6



$$DF = \sqrt{(a\sqrt{2})^2 + a^2}$$

$$DF = \sqrt{2a^2 + a^2}$$

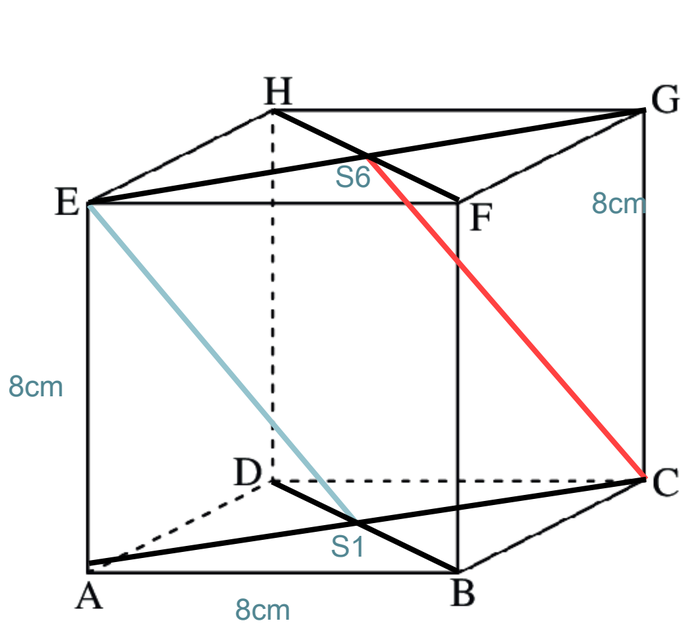
$$DF = a\sqrt{3}$$

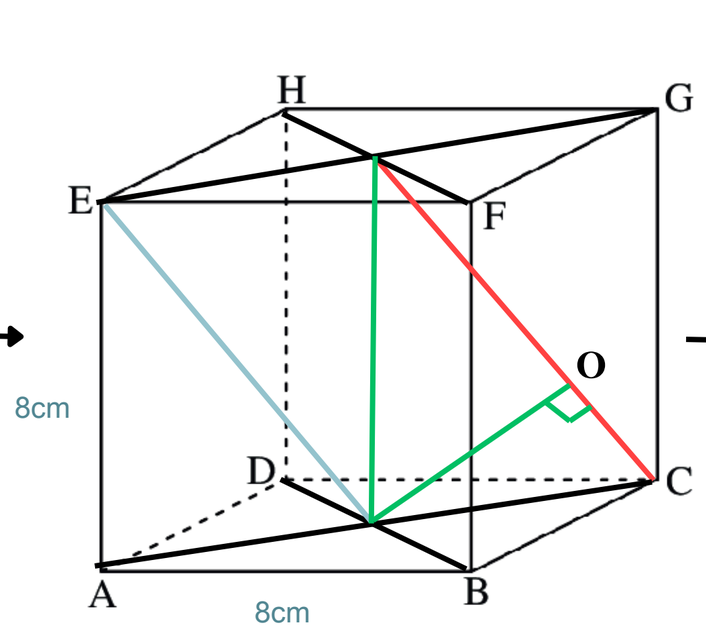
$$FX = \frac{1}{3}\,DF$$

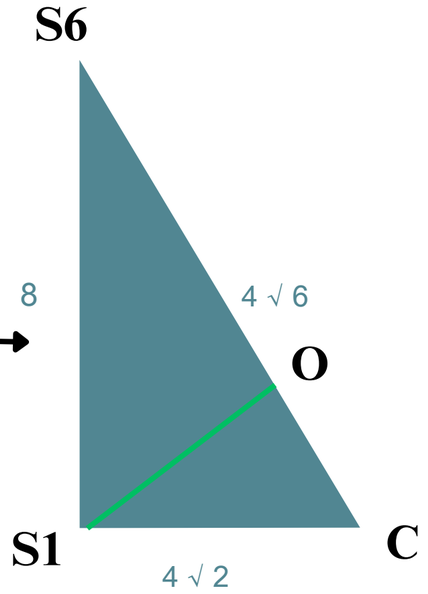
$$FX = \frac{1}{3}a\sqrt{3}$$

Jarak 2 Garis Sejajar

Tentukan jarak garis ES1 dan CS6!







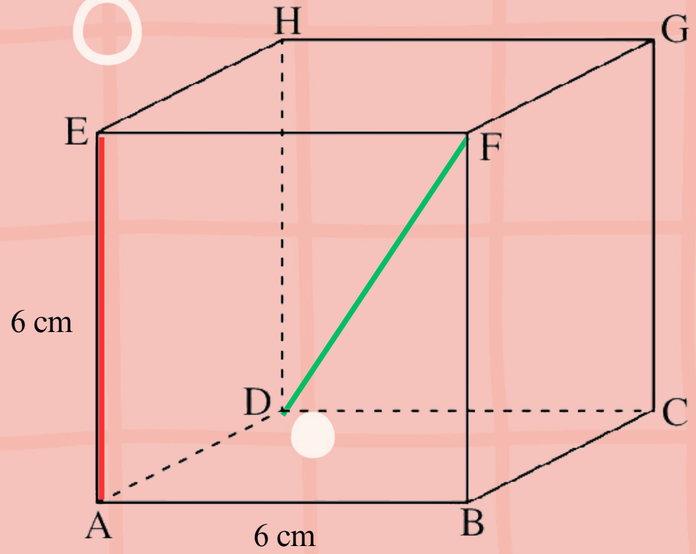
Diketahui ABCDEFGH dengan panjang rusuk 8 cm
S1 adalah titik potong AC dan BD
S6 adalah titik potong EG dan FH

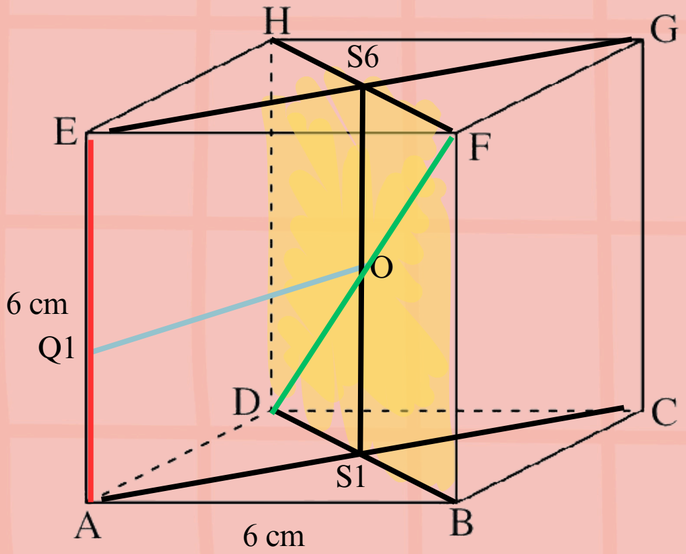
ES1 dan CS6 sejajar
Segitiga OCS1 membentuk sudut siku-siku di O

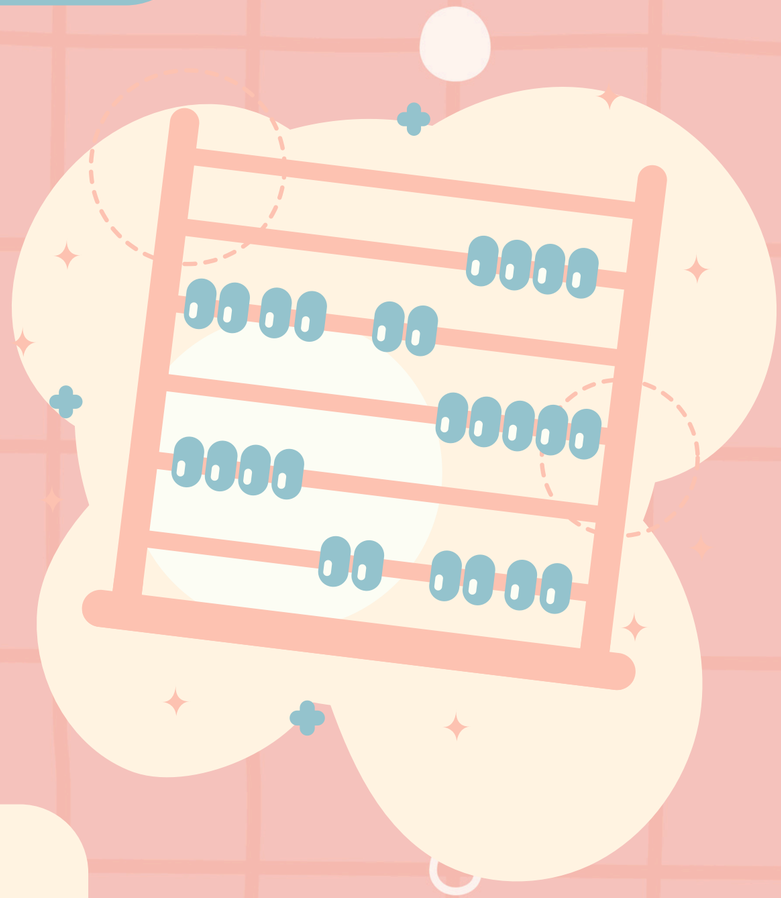
1/2 x 4√2 x 8 = 1/2 x 4√6 x S1O
8√2 = √6 x S1O
8√2/√6 = S1O
S1O = 4/3√12

Jarak 2 Garis Bersilangan

Carilah panjang jarak AE ke DF!







Diketahui ABCDEFGH dengan panjang rusuk 6 cm

Garis DF pada bidang DBFH

S1 akan jatuh kepada S6

OQ1 = AS1 = ES6

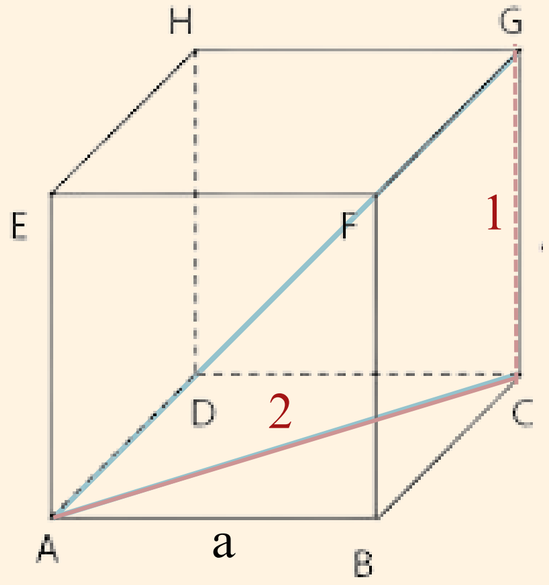
OQ1 = 1/2 EG

= 1/2 x 6√2

= 3√2

PROYEKSI GARIS KE GARIS

Tentukan Panjang Proyeksi AG pada AC



*Proyeksi titik harus tegak lurus dengan garis/bidang

A' (Proyeksi A) pada A

G' (Proyeksi G) pada C

Langkah 1: Proyeksikan titik G → titik C

Langkah 2: Hitung panjangnya

Jadi,

panjang A' ke G'

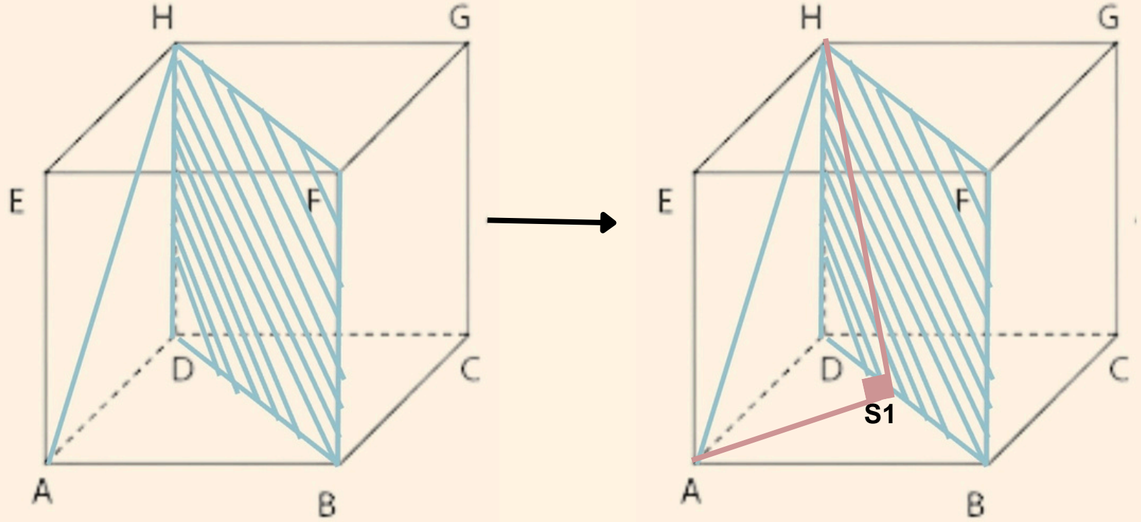
$=a\sqrt{2}$

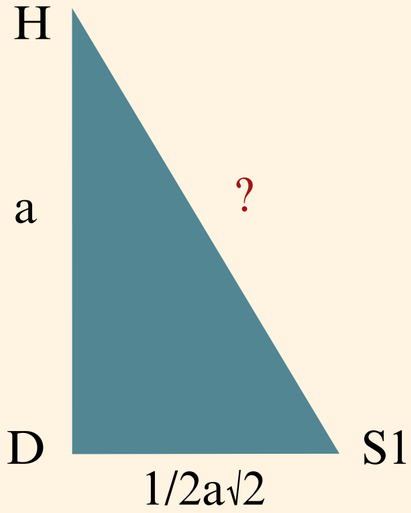
sama seperti diagonal sisi

$A'G'=\sqrt{a^2+a^2}=a\sqrt{2}$

PROYEKSI GARIS KE BIDANG

Tentukan Panjang Proyeksi AH pada BDHF





H'=H, cari A'

A' akan jatuh di S1 karena tegak lurus, jadi panjang A'H'=HS1

$HS1=\sqrt{a^2+(1/2a\sqrt{2})^2}$

$HS1=1/2a\sqrt{6}$

TERIMAKASIH