

1. 180°
 2. 90°
 3. $A+b=180$, $a=180-b$, $b=180-a$

man beraktivitas

1. 60° 2. $\angle BOP \rightarrow EQ = \sqrt{8^2 + 6^2} = 10 \text{ cm}$
 $EP = \sqrt{6^2 + 4^2} = 2\sqrt{13} \text{ cm}$
 $CP = \sqrt{6^2 + 4^2} = 2\sqrt{13} \text{ cm}$
 $GP = \sqrt{8^2 + (2\sqrt{13})^2} = 2\sqrt{22} \text{ cm}$

sumasasi
 $AH=HC=AC=4 \text{ cm}$

latihan 1.5
 1. $AHC = \text{sumasasi}$
 $\alpha = 60^\circ$

2. $\angle HFC \rightarrow HF = \sqrt{6^2 + 6^2} = 10 \text{ cm}$
 $FC = 2\sqrt{13} \text{ cm}$
 $CH = 4\sqrt{5} \text{ cm}$

$$\cos \angle HFC = \frac{HF^2 + FC^2 - CH^2}{2 \cdot HF \cdot FC} = \frac{100 + 52 - 80}{2 \cdot 100 \cdot 2\sqrt{13}} = \frac{72}{400\sqrt{13}} = \frac{\sqrt{3}}{5}$$

II. $HF \rightarrow PB$, $EB(B)$

$\angle EPB$

$EP = 2\sqrt{13} \text{ cm}$

$DB = 10 \text{ cm}$

$EB = 4\sqrt{5} \text{ cm}$

$\cos \angle EPB = \sqrt{3}/5$

contoh 3.1

1. b. $EF = HF = CH = a\sqrt{2}$

d. \overline{AH} , \overline{FC} , $\alpha = \frac{1}{4} \cdot 360 = 90^\circ$ f. \overline{CH} & \overline{DE} , $EP = FP = DB = a\sqrt{2}$
 $\hookrightarrow \alpha = 60^\circ$

- segitiga sama sisi $\alpha = 60^\circ$

g. \overline{AH} & $\overline{DF} \rightarrow \alpha = \frac{1}{2} a\sqrt{2}$ $\times \frac{1}{2} = \sqrt{a^2 + (\frac{1}{2}a)^2} \rightarrow \cos \alpha = \frac{(\frac{\sqrt{3}}{2}a)^2 + (\frac{1}{2}a)^2}{2(\frac{\sqrt{3}}{2}a)(\frac{1}{2}a)}$
 $\alpha = \frac{1}{2} a\sqrt{3} = \frac{\sqrt{3}}{2} a$
 $\cos \alpha = 0 \rightarrow \alpha = 90^\circ$

2. b. $\sin \alpha (\overline{FG}, \overline{BQ})$

$BQ = 2\sqrt{13}$

$FG = 6$

$FB = 4$

$\sin \alpha = \frac{4}{2\sqrt{13}} = \frac{2\sqrt{13}}{13}$

d. $\cos \alpha (\overline{AH}, \overline{BF})$

$BQ = 2\sqrt{13}$

$FB = 4$

$FG = 6$

$\cos \alpha = \frac{2}{2\sqrt{13}} = \frac{2\sqrt{13}}{13}$

3. b. \overline{KL} & \overline{AD}

$\frac{1}{2} KL = \frac{1}{2} \sqrt{2} \quad KK = 1$

$KL = \frac{1}{2} \sqrt{3}$

$\cos \alpha = \frac{(\frac{1}{2} \sqrt{2})^2 + (1)^2 - (\frac{1}{2} \sqrt{3})^2}{2(\frac{1}{2} \sqrt{2})(1)}$

$\sqrt{3}/2 \Rightarrow \alpha = 90^\circ$

c. \overline{KL} & $\overline{CF} \rightarrow CL' = \frac{1}{2} \sqrt{3}$

$CF = \sqrt{2}$

$FL' = \sqrt{(\frac{1}{2})^2 + (\frac{1}{2})^2 + 1} = \frac{\sqrt{6}}{2}$

$\cos \alpha = \frac{(\frac{\sqrt{2}}{2})^2 + (\frac{\sqrt{2}}{2})^2 - (\frac{\sqrt{6}}{2})^2}{2(\frac{\sqrt{2}}{2})(\frac{\sqrt{2}}{2})}$
 $\Rightarrow \frac{1}{2} \Rightarrow \alpha = 60^\circ$

$$4. b. \cos \angle = \frac{8^2 + 8^2 - 9^2}{2 \cdot 8 \cdot 8} = \frac{4 \cdot 4 (2^2 + 2^2 - 1)}{2 \cdot 8 \cdot 8} = \frac{7}{6}$$

$$d. \cos \alpha = \frac{8^2 + 9 - 8^2}{2 \cdot 8 \cdot 9} = \frac{1}{4}$$

$$f. \tan (\arccos(1/4)) = 3/8$$

$$5. a) BG = 6\sqrt{2} \Rightarrow DB = 1/2 BG = 3\sqrt{2}$$

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

$$10CL = 2\sqrt{5}$$

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

$$\hookrightarrow \cos \angle COG = \sqrt{10}/10$$

$$\alpha = 71^\circ$$

Snip tangkapan 3.1

$$BO = OA = 2$$

$$AB = 2\sqrt{2}$$

$$AC = \sqrt{6}, BC = \sqrt{2}$$

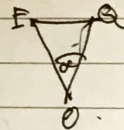
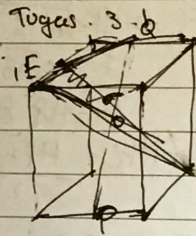
$$\cos \angle ABC = \frac{(2\sqrt{2})^2 + (\sqrt{2})^2 - (\sqrt{6})^2}{2(2\sqrt{2})(\sqrt{2})}$$

$$= 1/2 \rightarrow \alpha = 60$$

$$\rightarrow \sin \alpha = \sin 60 = 1/2 \sqrt{3}$$

$$b) \cos (\arccos(3\sqrt{2}))^2 + (3\sqrt{5})^2 - (3\sqrt{5})^2$$

$$= \frac{2(2\sqrt{2})(3\sqrt{5})}{10}$$



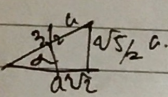
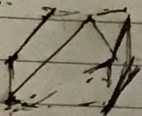
$$\cos \angle EOQ = \frac{(1\sqrt{2}/2)^2 + (1\sqrt{2}/2)^2 - (1\sqrt{2}/2)^2}{2 \cdot 1\sqrt{2}/2 \cdot 1\sqrt{2}/2}$$

$$\Rightarrow 0$$

$$\rightarrow 90^\circ$$

$$2. \text{ rumus snip } \rightarrow \alpha = 60^\circ \mid \cos 60 = 1/2$$

3.



$$\cos \alpha = \frac{(3/2 a)^2 + (a\sqrt{2})^2 - (1\sqrt{5}/2 a)^2}{2 \cdot 3/2 a \cdot (a\sqrt{2})}$$

$$= 1/2 \sqrt{2} \rightarrow \alpha = 45^\circ$$

MARI BERAK II.

1. $\angle TBD$

$$BD = 3\sqrt{2} \text{ cm}$$

$$OB = 1/2 BD = \frac{3}{2} \sqrt{2} \text{ cm}$$

$$\cos \angle TBD = \frac{2\sqrt{2}/\sqrt{2}}{\sqrt{2}} = \frac{2\sqrt{2}}{2}$$

$$\angle TBD = 45^\circ$$

2. $\angle COG$

$$CG = 4 \text{ cm}$$

$$OC = 1/2 AC = 2\sqrt{2} \text{ cm}$$

$$\tan \angle COG = A/\sqrt{2} = \sqrt{2}$$

$$\angle COG = 47^\circ$$

COBALAH II

$$1. \angle CBO \rightarrow \tan \theta = \frac{a}{a\sqrt{2}} = \frac{1}{\sqrt{2}}$$

$$2. TP = PC = 2\sqrt{3}$$

$$\cos \alpha = \frac{(2\sqrt{3})^2 + (2\sqrt{3})^2 - 4^2}{2(2\sqrt{3})(2\sqrt{3})} = 1/2$$

$$\tan(\arccos(1/2)) = 2\sqrt{3}$$

SIKAP TANGKAPAN 2.

$$DC = 1 : DC' = \sqrt{2}/2$$

$$EC' = \sqrt{1^2 + (1/2)^2 + (1/2)^2} = \sqrt{6}/2$$

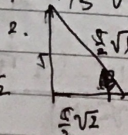
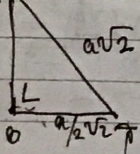
$$\cos \alpha = \frac{(1\sqrt{2}/2)^2 + (\sqrt{6}/2)^2 - 1^2}{2(1\sqrt{2}/2)(\sqrt{6}/2)} = \frac{\sqrt{3}}{3}$$

$$\rightarrow \sin(\arccos(\sqrt{3}/3)) = 1/3 \sqrt{6} (c)$$

$$\text{Tugas. } 1. TP = 4\sqrt{2} \text{ cm}; TO = 1/2 TP = 2\sqrt{2}$$

$$\cos \angle POT = \frac{TO}{PT} = \frac{2\sqrt{2}}{4\sqrt{2}} = \frac{1}{2}$$

$$\alpha = 60^\circ$$



$$\cos \beta = \frac{2\sqrt{2}}{4\sqrt{2}} = \frac{\sqrt{2}}{2}$$

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

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

VOS