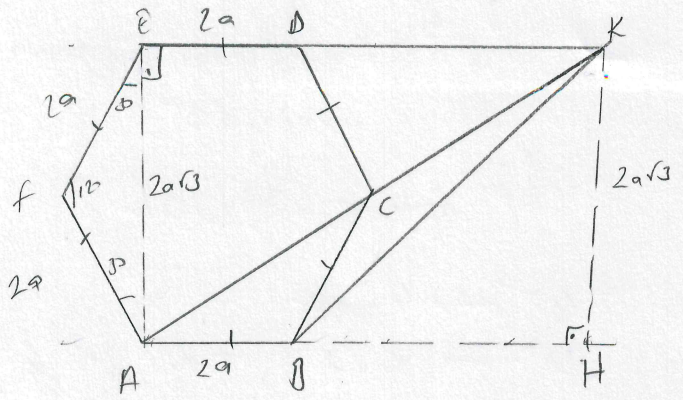
GOKGENLER TEST 4

(1)



$\frac{(6-2).180}{6} = 120°$ iç açısı

Bir kenar 2a olsun

|EA| çizilirse;

$(A\hat{F}E) \rightarrow (120-30-30)$

$30° \rightarrow 2a$

$120° \rightarrow 2a\sqrt{3} = |EA|$

|KH| çizilirse; AHKE dikdörtgeni olunur $|AE| = |KH| = 2a\sqrt{3}$

$A(A\hat{K}B) = \frac{2a \cdot 2a\sqrt{3}}{2} = 18\sqrt{3} \Rightarrow 2a^2 = 18, \; a^2 = 9$

$a = 3$

$A(ABCDEF) = \frac{6.(2a)^2\sqrt{3}}{4} = \frac{6.(2.3)^2.\sqrt{3}}{4} = \frac{6.36.\sqrt{3}}{4} = 54\sqrt{3}$ //

(2) n kenarlı çokgenin köşegen sayısı $= \frac{n(n-3)}{2}$

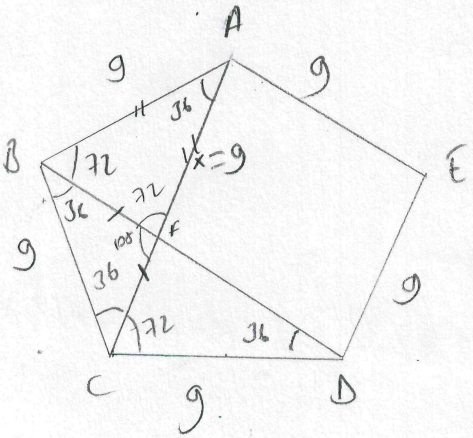
$\frac{n}{\frac{n(n-3)}{2}} = \frac{2}{3} \Rightarrow \frac{2n}{n(n-3)} = \frac{2}{3} \Rightarrow n-3 = 3$

$n = 6$, düzgün altıgen

$A_{lan} = 6\frac{a^2\sqrt{3}}{4} = 9\sqrt{3} \Rightarrow a^2 = 6$

$a = \sqrt{6}$ $\Rightarrow$ çevre $= 6.\sqrt{6}$ //

(3)



$\frac{(5-2).180}{5} = 108°$ iç açısı $\quad \frac{45}{5} = 9$ bir kenar

$\hat{ABC}$ ikizkenar $\quad 180 - 108 = \frac{72}{2} = 36$ taban açıları

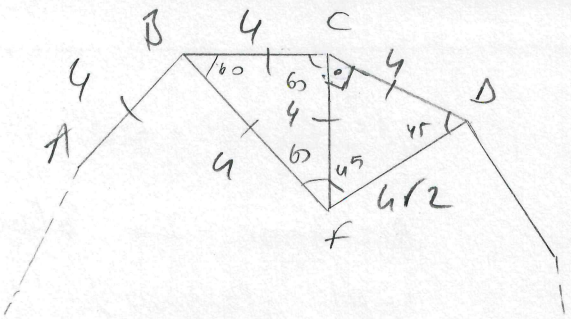
$\hat{BCD}$ " $\quad 180 - 108 = \frac{72}{2} = 36$ taban açıları

$\hat{BCF}$ $F \rightarrow 108°$ derece bütün kenar: $72°$

$\hat{ABF}$ $\rightarrow 72°$ " ikizkenar

$|AF| = |AB| = 9$ //

4)



$\frac{(12-2).180}{12} = 150°$ iç açısı

$\triangle(BfC)$ eşkenar üçgen

bir iç açısı $60°$

$\triangle CDf$ $(45-45-90)$

$45° \longrightarrow 4$ ise

$90° \longrightarrow 4\sqrt{2} = |fD| = x$ //

$\frac{48}{12} = 4$ bir kenarı

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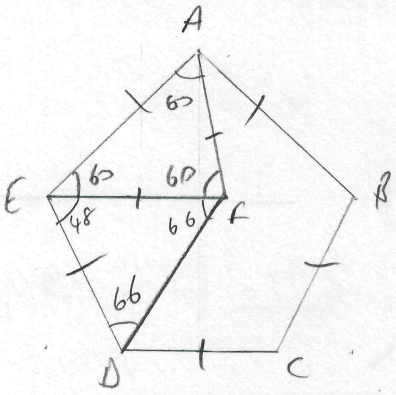
5)



$\frac{(5-2).180}{5} = 108°$ iç açısı

$\triangle AfE$ → iç açısı $60°$

$|AE| = |Af| = |Ef| = |ED|$

$\triangle EfD$ ikizkenar üçgen

$108 - 60 = 48 \rightarrow \hat{E}$

$180 - 48 = \frac{132}{2} = 66$ taban açılarıdır. $m(\widehat{EfD}) = 66$ //

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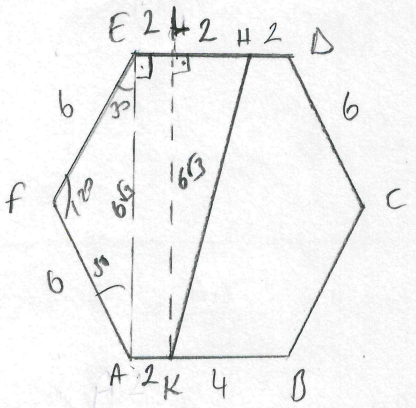
6)



$|DC| = |ED| = |AB| = 6$, $|HD| = a$ ise $|AK| = a$

$|KB| = 2a$, $|EH| = 2a$ ⇒ $3a = 6$

$a = 2 = |HD| = |AK|$

$2a = 4 = |KB| = |EH|$

$|EA|$ çizilirse;

$\triangle(EfA) \rightarrow (120 - 30 - 30)$

$30 \rightarrow 6$ ise

$120° \rightarrow 6\sqrt{3} = |EA|$

$|KL|$ çizilirse; $EALK$ dikdörtgen

$|KL| = |EA| = 6\sqrt{3}$

$\Rightarrow$ $\triangle KLH$ pisagor

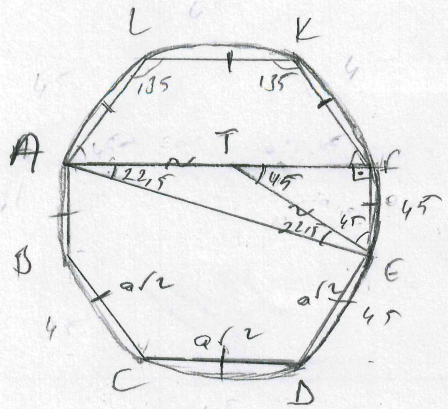
$|KH|^2 = (2)^2 + (6\sqrt{3})^2 \Rightarrow |KH|^2 = 4 + 108$

$|KH|^2 = 112$

$|KH| = 4\sqrt{7}$ //

GÖKGENLER TEST 4

(7)



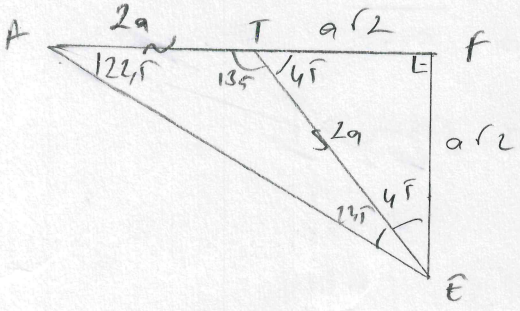
$\frac{(8-2).180}{8} = 135°$ iç açısı

$\frac{360}{8} = 45°$ dış açısı

yay derecesi $45°$

$(\overset{\Delta}{AFE})$ → $\hat{A}$ açısı $= \frac{45}{2} = 22,5°$

$(\overset{\Delta}{ATE})$ → ikizkenar üçgen taban açıları $22,5$



$|AT| = 2a$ olsun, $|AT| = |TE| = 2a$

$(\overset{\Delta}{ETF})$ → (45-45-90)

$90° \rightarrow 2a$

$45° \rightarrow \frac{2a}{\sqrt{2}} = \frac{2a\sqrt{2}}{2} = a\sqrt{2}$

$(\sqrt{2})$

$A(\overset{\Delta}{AET}) = \frac{a\sqrt{2}.2a}{2} = 18\sqrt{2} \Rightarrow a^2 = 18$, $a = 3\sqrt{2}$

Çevre $= 8.a\sqrt{2} \Rightarrow 8.3\sqrt{2}.\sqrt{2} = 48$ //

(8) $\frac{(n-2).180}{n} = \frac{(12-2).180}{12} = 150°$ //

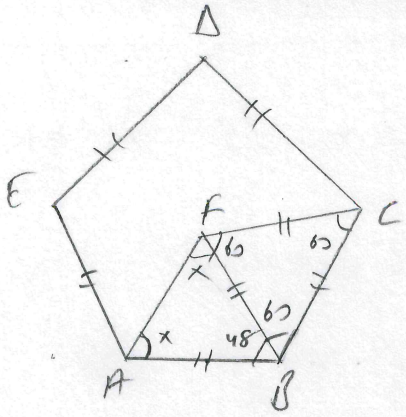
(9) $\frac{(n-2).180}{n} = \frac{360}{n}.4 \Rightarrow (n-2) = 8$

$n = 10$

(10) $\frac{(5-2).180}{5} = 108° = \alpha$, $\frac{360}{5} = 72 = \beta$

$\frac{\alpha}{\beta} = \frac{108}{72} = \frac{3}{2}$ //

(11)



$\frac{(5-2).180^\circ}{5} = 108^\circ$ iç açısı

Eşkenar üçgenin bir iç açısı $= 60^\circ$

$108 - 60 = 48$

$(\hat{AFB})$ → ikizkenar üçgen tepe açısı 48°

$180 - 48 = \frac{132}{2} = 66 = x$ //

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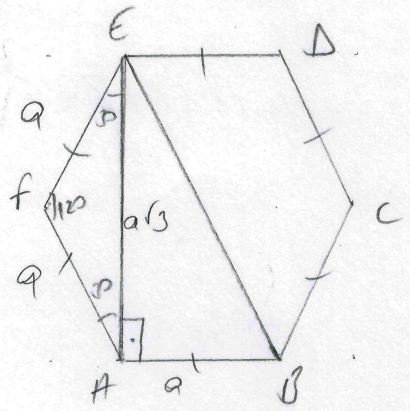
(12)



$\frac{(6-2).180^\circ}{6} = 120^\circ$ iç açısı

Bir kenar a olsun

$(\hat{AFE})$ → (120 - 30 - 30)

$30 \rightarrow a$ ise

$120 \rightarrow a\sqrt{3} = |AE|$

$A(EAB) = \frac{a\sqrt{3} \cdot a}{2} = 32\sqrt{3} \Rightarrow a^2 = 64,\ a = 8$ //