10

Ad Soyad

No

ARNAVUTKÖY KORKMAZ YİĞİT ANADOLU LİSESİ
2008-2009 EĞİTİM VE ÖĞRETİM YILI
10. Sınıf I. DÖNEM II. *Geometri* YAZILISI

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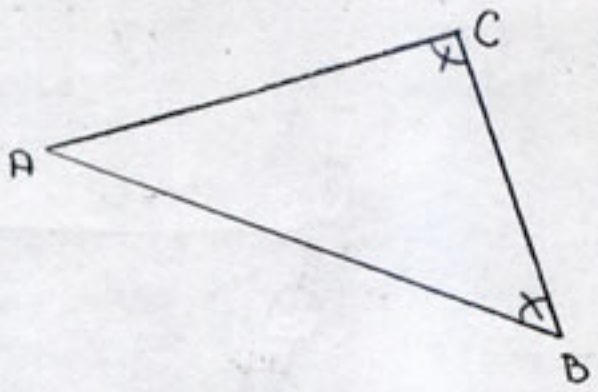
1 — 10 puan



$\triangle ABC$'de;

$|AC| = 12$

$\frac{2 \cdot m(\hat{C}) + m(\hat{A})}{2} = 90°$ ($\hat{C} = a$, $\hat{A} = a$)

↓

$|AB| = ?$

- $2c + 2 = 180°$ (2)

$a + b + c = 180°$ → $b = c$ (5)

$|AC| = |AB| = 12$ (3)

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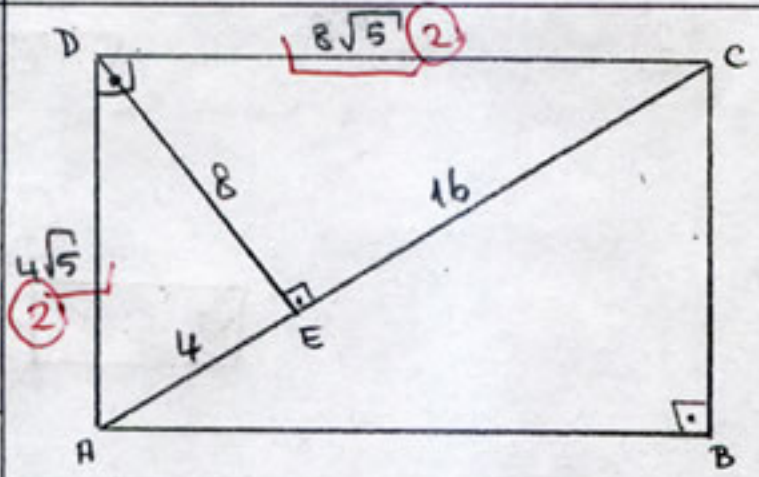
2 — 10 puan



ABCD dikdörtgen

[AC] köşegen

$|AE| = 4 \wedge |EC| = 16$

↓

Çevre (ABCD) = ?

$\triangle DAC$ dik

$|DE|^2 = 4 \cdot 16$ (Euclid)

(3) $|DE| = 8$

Çevre $= 2.4\sqrt{5} + 2.8\sqrt{5}$

$= 24\sqrt{5}$ (3)

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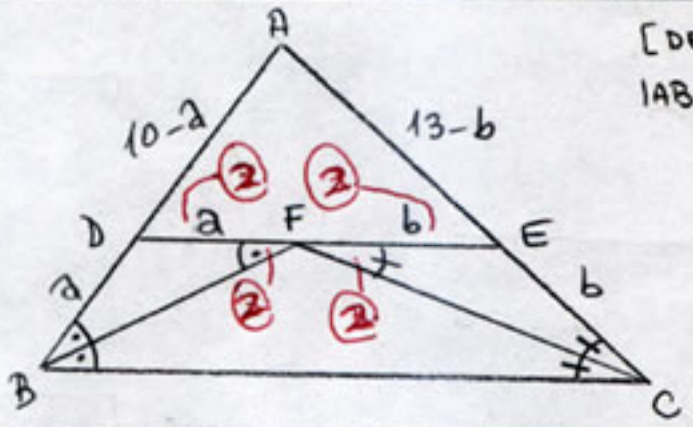
3 — 10 puan



$[DE] \parallel [BC]$

$|AB| = 10 \wedge |AC| = 13$

↓

Çevre $(\hat{ADE}) = ?$ $= 10 - a + a + b + 13 - b$

$= 23$ (2)

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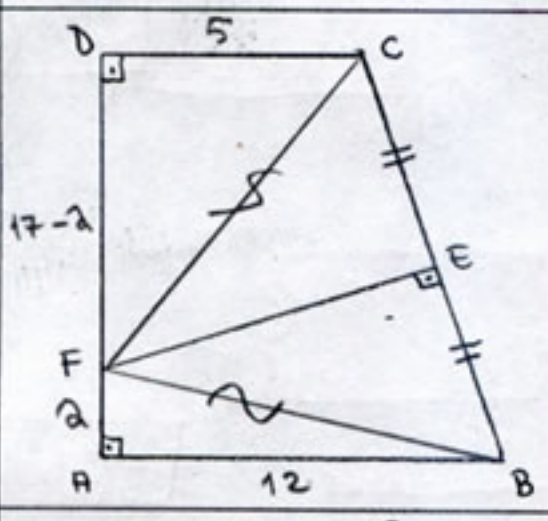
4 — 10 puan



$|CE| = |EB|$

$|AB| = 12 \wedge |DC| = 5$

$|AD| = 17$ → $|AF| = ?$

[FC] ve [FB] çizilir. (3)

[FE] yükseklik ve kenarortay

↓

$|FC| = |FB|$ (3)

(2) $|FC|^2 = |FB|^2$

$5^2 + (17-a)^2 = a^2 + 12^2$

$25 + 289 - 34a + a^2 = a^2 + 144$

$34a = 170 \rightarrow a = 5$

$|AF| = 5$ (2)

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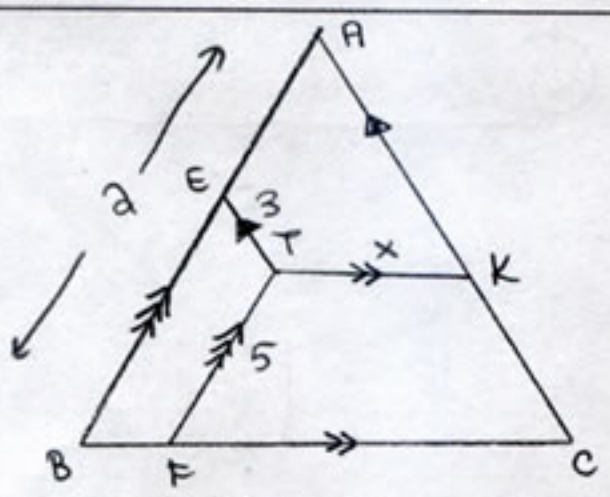
5 — 10 puan



$\triangle ABC$ eşkenar

$|ET| = 3$

$|TF| = 5$

$A(\hat{ABC}) = \frac{225\sqrt{3}}{4}$

↓

$|TK| = ?$

(3) $\frac{a^2\sqrt{3}}{4} = \frac{225\sqrt{3}}{4}$ → $a^2 = 225$

$a = 15$ (3)

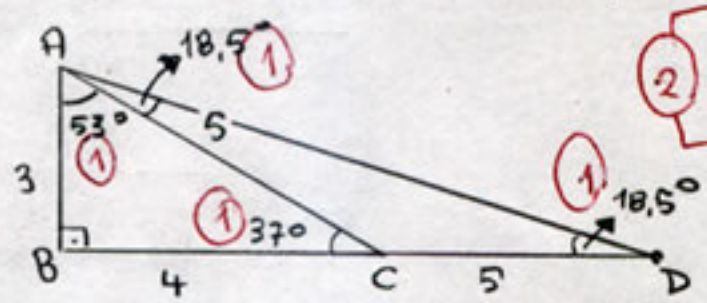
(2) $5 + 3 + x = a$

$8 + x = 15$

$x = 7$ (2)

6 — 10 puan

Dik kenarları 1 ve 3 olan dik üçgenin iç açılarını bulun.



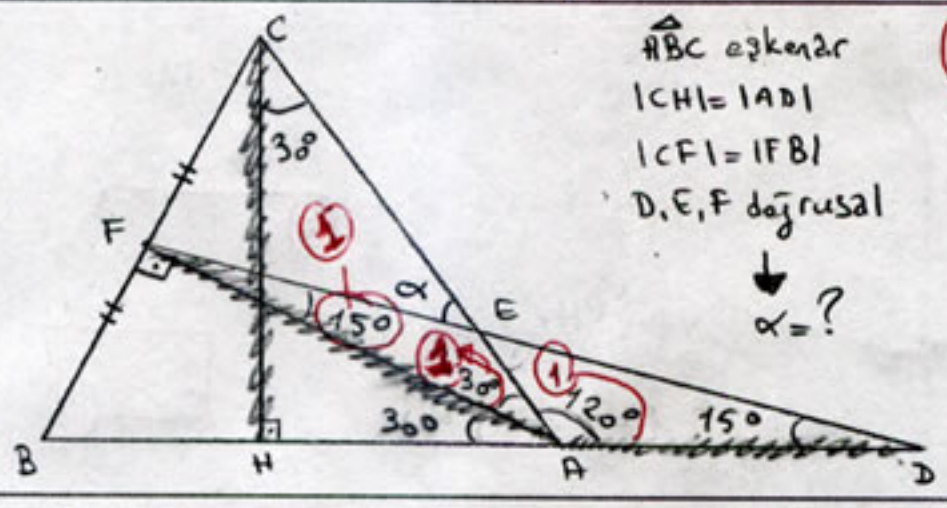
(2) 3-4-5 üçgeni çizilir
(2) [BC], [AC] kadar uzatılır (5 birim)
$|AC| = |CD| = 5$

(1) $\hat{ABD}$ bir dik kenarları 3-9

(2) İç açıları, Dik kenarları 1-3 olan üçgenle aynıdır.

(1) $18,5° \cdot 71,5° \cdot 90°$

7 — 10 puan



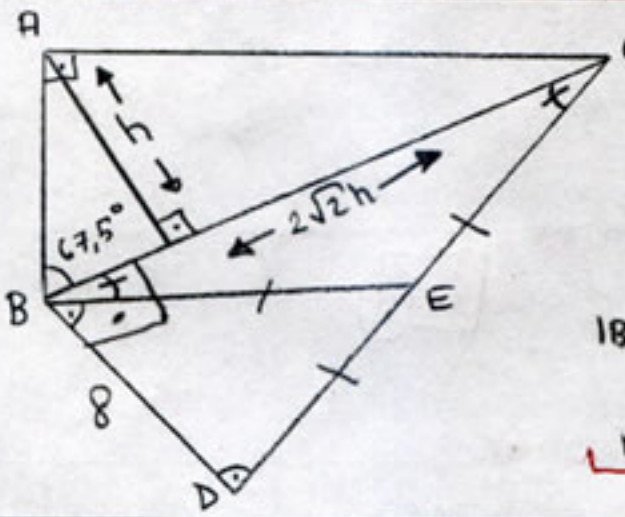
$\hat{ABC}$ eşkenar
$|CH| = |AD|$
$|CF| = |FB|$
D, E, F doğrusal
↓
$\alpha = ?$

(2) [AF] çizilir
$|CF| = |FB| \wedge |AC| = |AB| \rightarrow$ [AF] (2) yükseklik olur.

$\hat{ABC}$ eşkenar → $|CH| = |AF|$ (2)

$\alpha = 45°$ (1)

8 — 10 puan



$A(\hat{ABC}) = 30\sqrt{2}$
$|BD| = 8$ → $|DC| = ?$

(3) $\frac{h \cdot 2\sqrt{2}h}{2} = 30\sqrt{2}$

$h^2 = 30 \rightarrow h = \sqrt{30}$ (2)

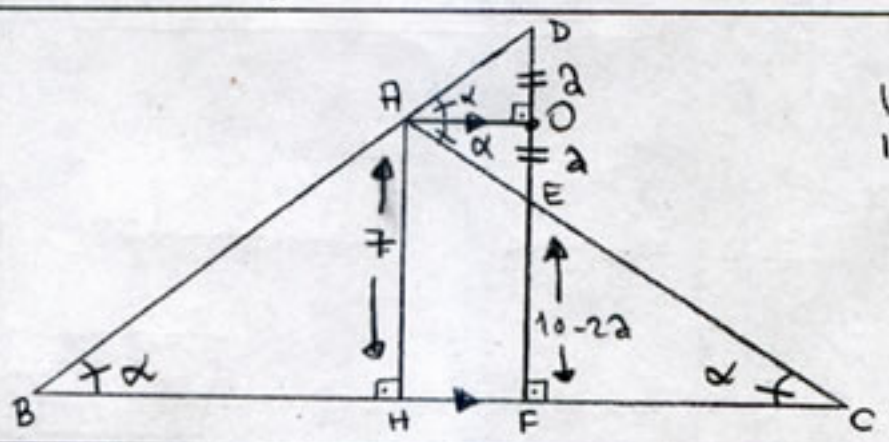
$|BC| = 2\sqrt{2} \cdot \sqrt{30} = 4\sqrt{15}$

$|BE| = |ED| = |DC|$
↓
$m(\hat{CBD}) = 90°$ (3)

→ $8^2 + (4\sqrt{15})^2 = |DC|^2$

for $|DC| = \sqrt{304} = 4\sqrt{19}$ (2)

9 — 10 puan



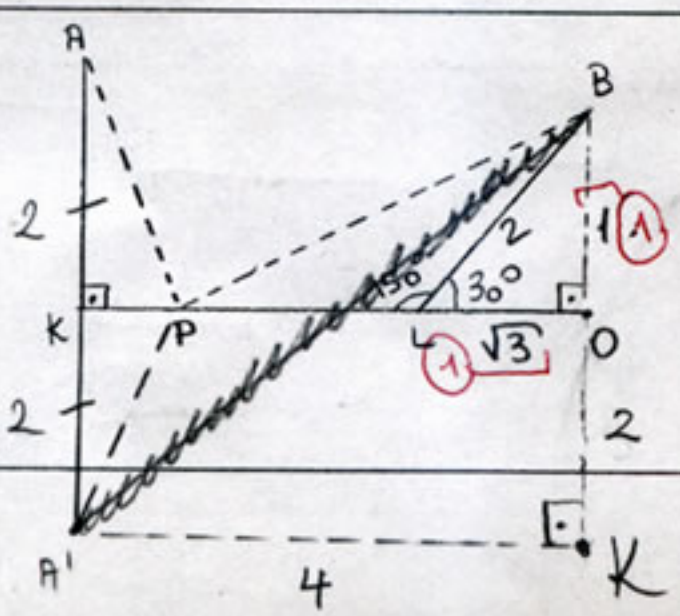
B, A, D doğrusal
$|AB| = |AC|$
$|AH| = 7 \wedge |DF| = 10$
↓
$|EF| = ?$

(2) [AO] çizilir. → $[AO] \parallel [BC]$
• $m(\hat{B}) = m(\hat{C}) = \alpha$ olsun.
• $m(\hat{OAC}) = \alpha$ (2) (iç ters) $= m(\hat{C})$
• $m(\hat{DAO}) = \alpha$ (2) (yöndeş) $= m(\hat{B})$

(2) $10 - 2a + a = 7$ $a = 3$

$|EF| = 4$ (2)

10 — 10 puan



$|AK| = 2 = |BL|$
$|KL| = 4 - \sqrt{3}$
$\min(|AP| + |PB|) = ?$

(2) A'nın [KO]'na göre simetriği A' olsun.

$|AP| + |PB| = |A'P| + |PB|$ (2)

(2) A', P, B doğrusal olursa $|A'P| + |PB|$ minimum olur.

$\min(|AP| + |PB|) = |A'B| = 5$ (2)