

YKS TYT GEOMETRİ DERSLERİ

3. HAFTA

27 Ekim 2018 tarihli ders için
Pınar Ongan tarafından hazırlanmıştır.

BUGÜNKÜ DERSİN İÇERİĞİ

- Üçgende Açortay
- Üçgende Kenarortay
- Üçgende Alan

BUGÜNLÜK HEDEFİMİZ

- Üçgende Açıortay
- Üçgende Kenarortay
- Üçgende Alan

konuları dahilinde ziyadesiyle önemli teoremleri öğrenmek/hatırlamak ve ilgili sorularla konuyu pekiştirmek.

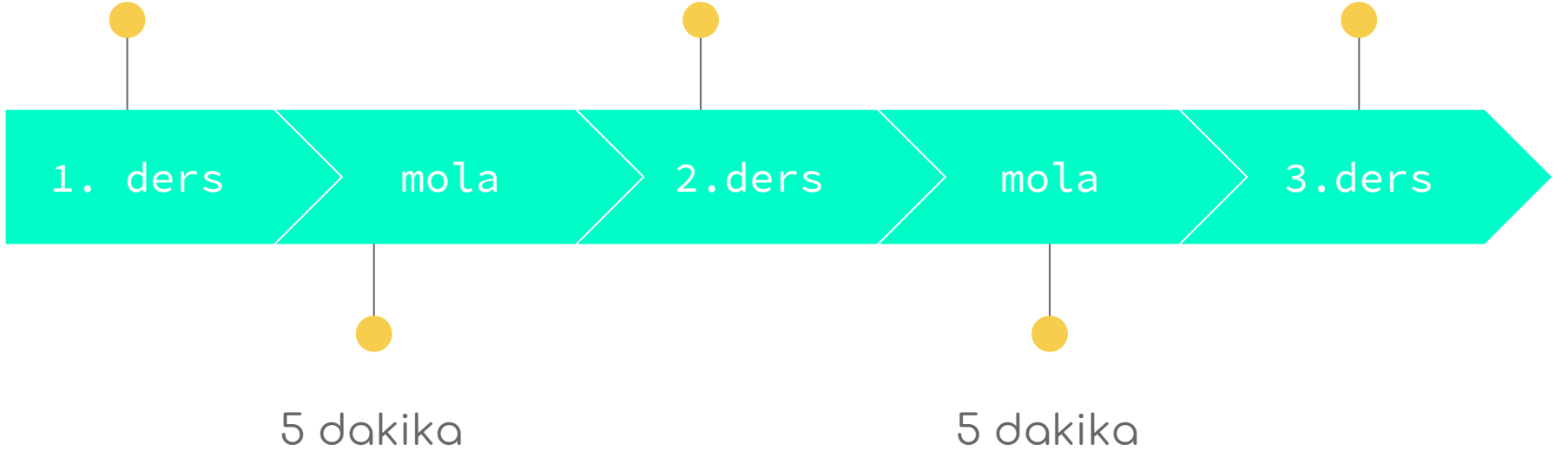
TAM DA ŐU ANDA ELİNİZİN ALTINDA BULUNMASI GEREKENLER

- Kağıt
- Tükenmez/Pilot Kalem
- Kurşun Kalem
- Silgi

Üçgende
Açıortay

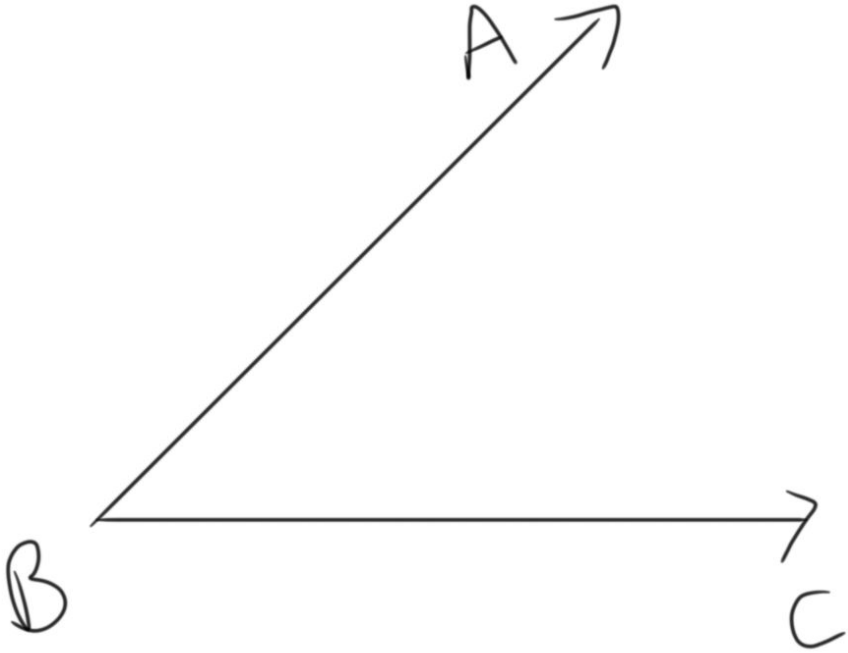
Üçgende
Kenarortay

Üçgende
Alan



ÜÇGENDE
AÇIORTAY

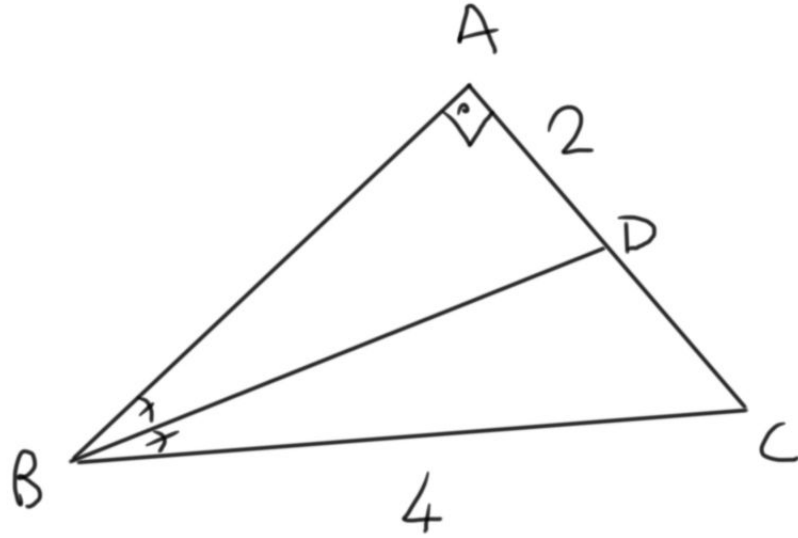
AÇIORTAY NEDİR?



ABC açısının açkıortayı:

Bu açkıortayın temel özellikleri:

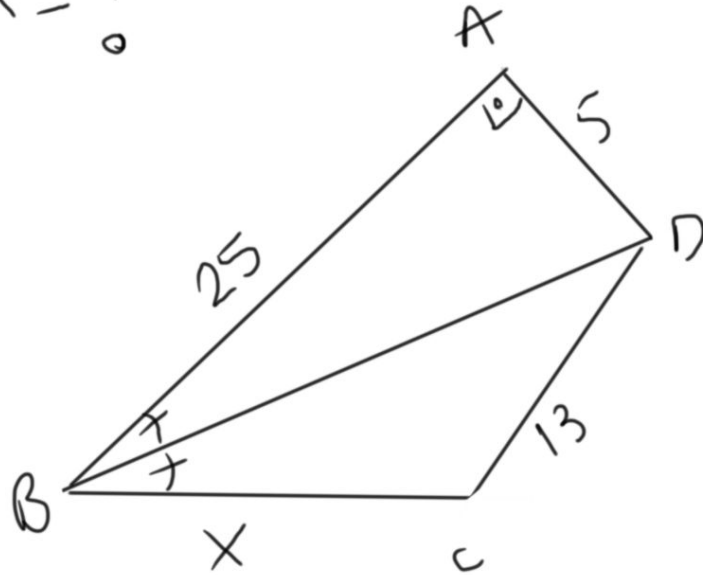
ALİŞTIRMA # 1



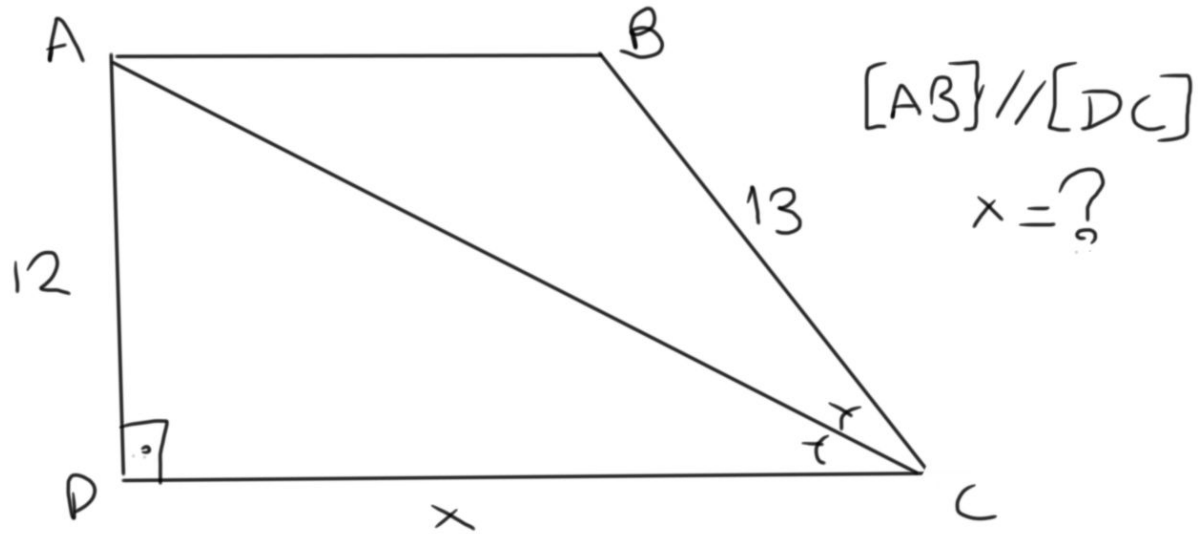
$$A(\overset{\Delta}{BDC}) = ?$$

ALİŞTIRMA # 2

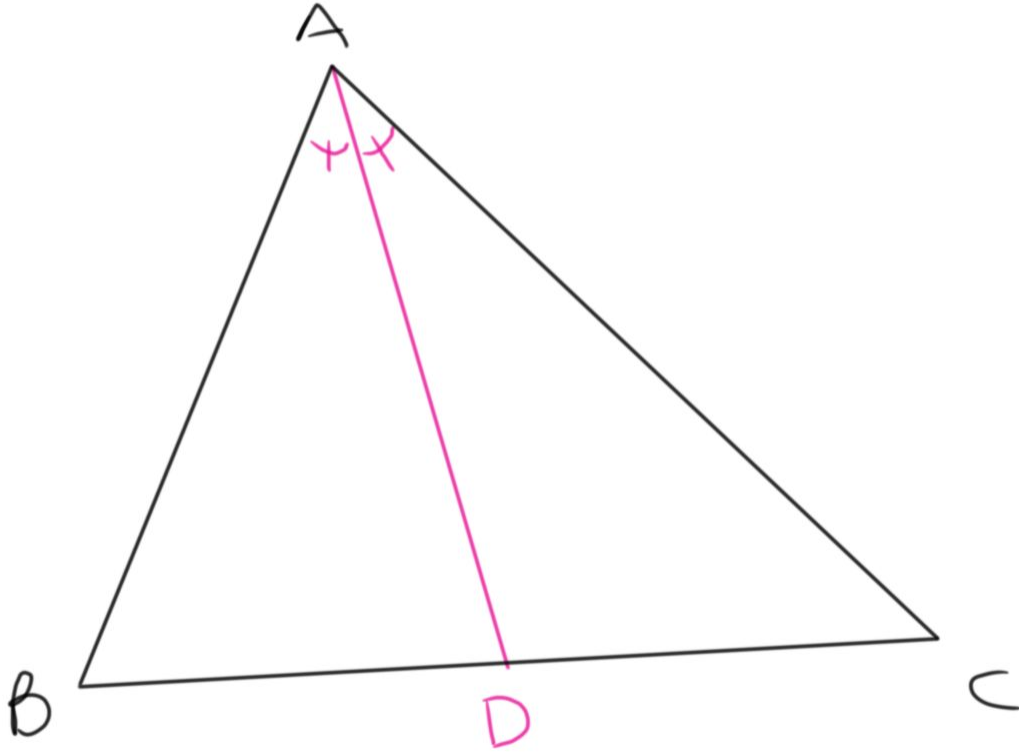
$$x = ?$$



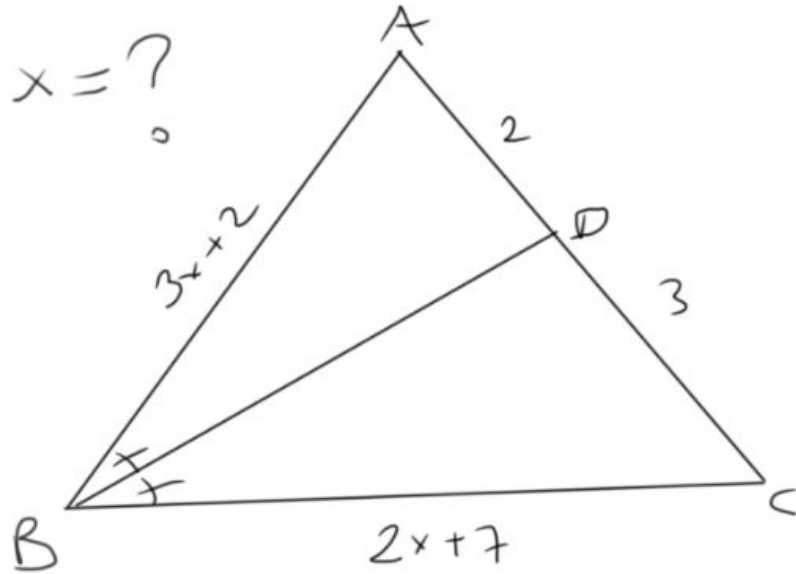
ALİŞTIRMA # 3



İÇ AÇIORTAY TEOREMİ:

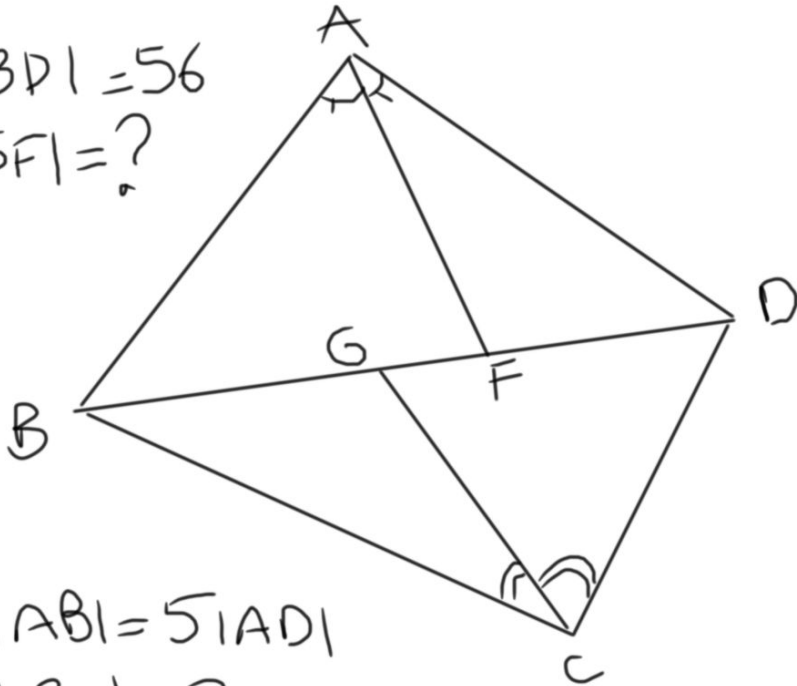


ALIŞTIRMA # 4



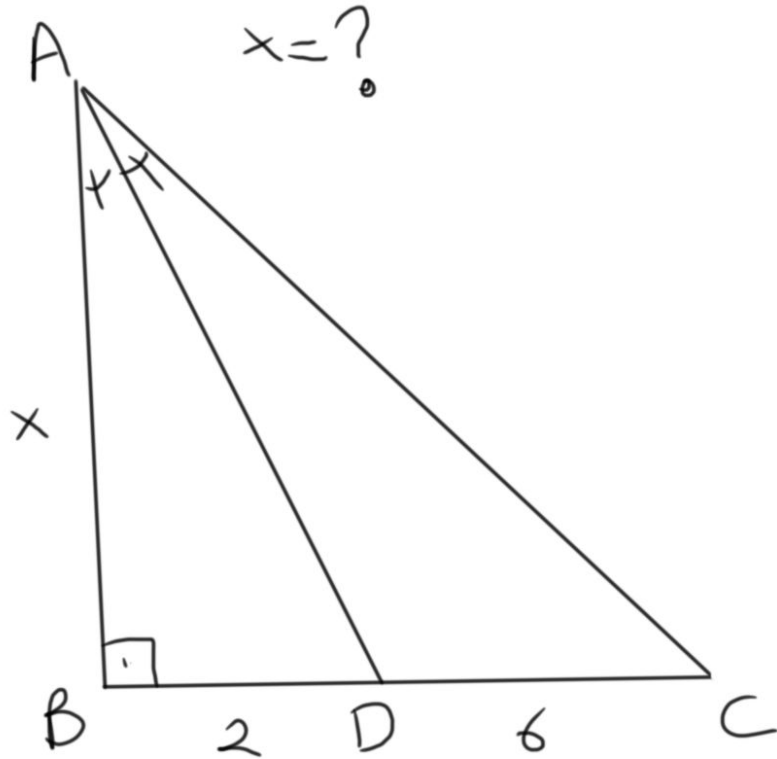
ALİŞTIRMA # 5

$$|BD| = 56$$
$$|GF| = ?$$

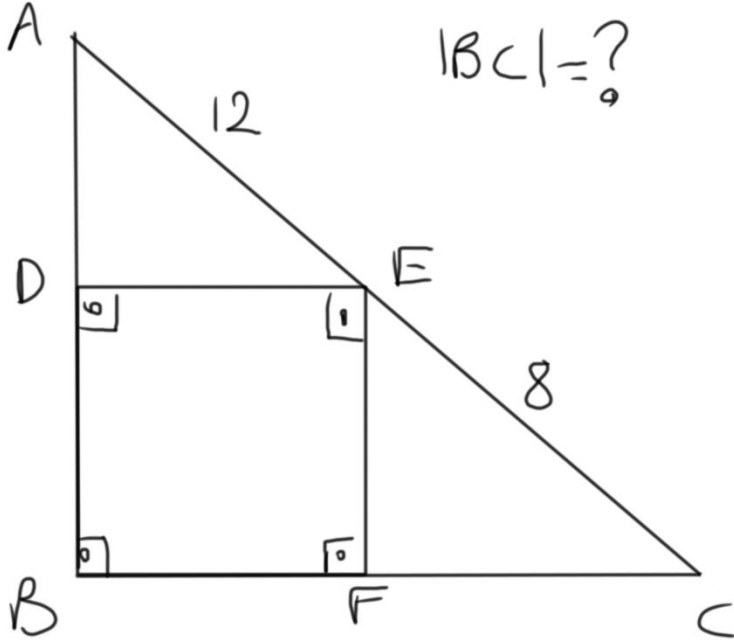


$$3|AB| = 5|AD|$$
$$4|BC| = 3|CD|$$

ALİŞTIRMA # 6

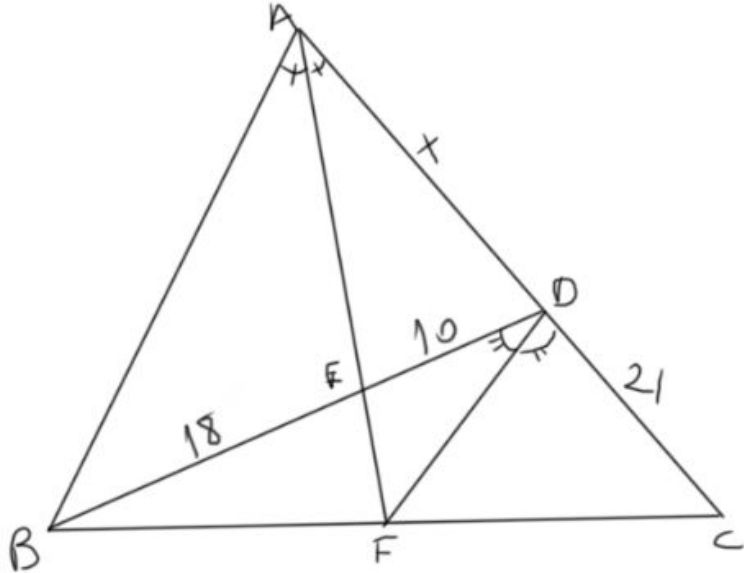


ALİŞTIRMA # 7



Şekilde, BDEF bir karedir.

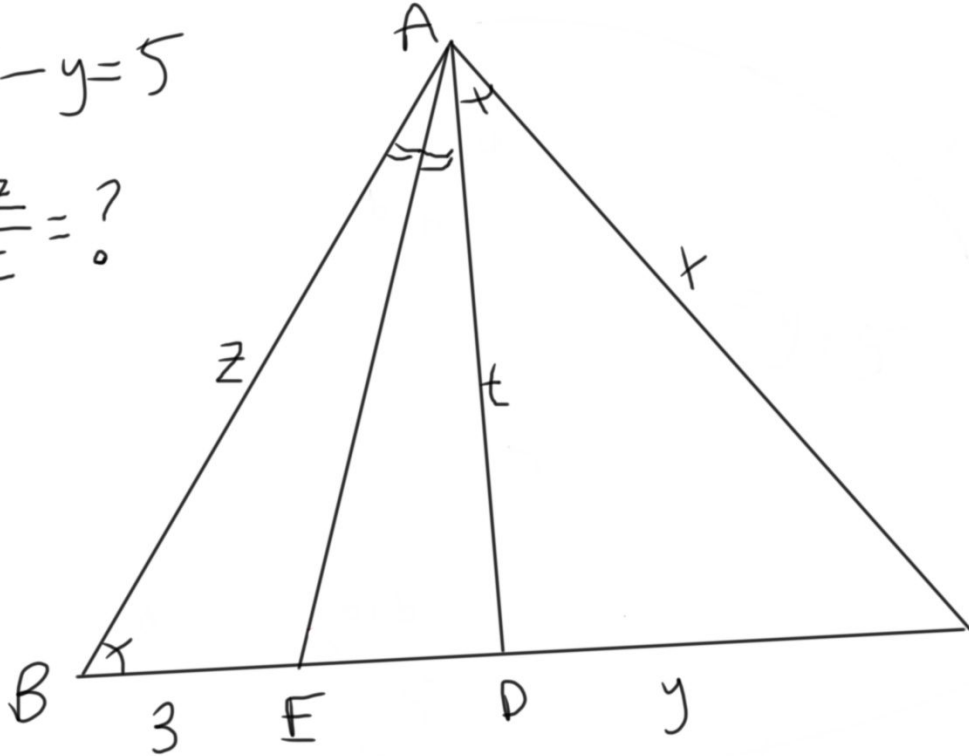
ALIŞTIRMA # 8



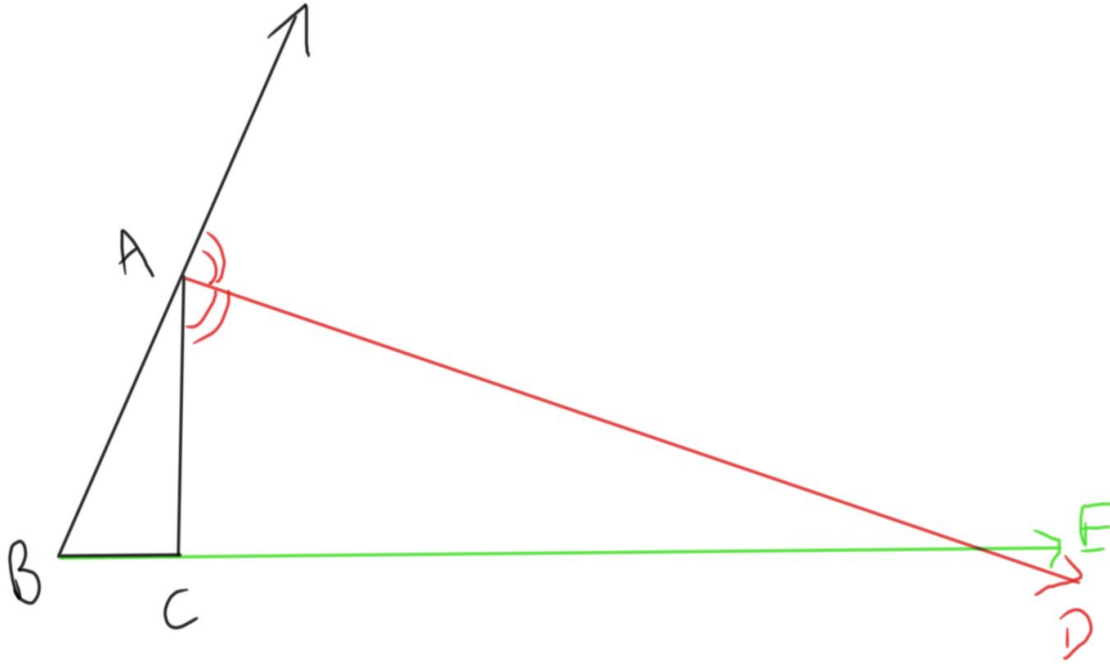
ALİŞTIRMA # 9

$$x - y = 5$$

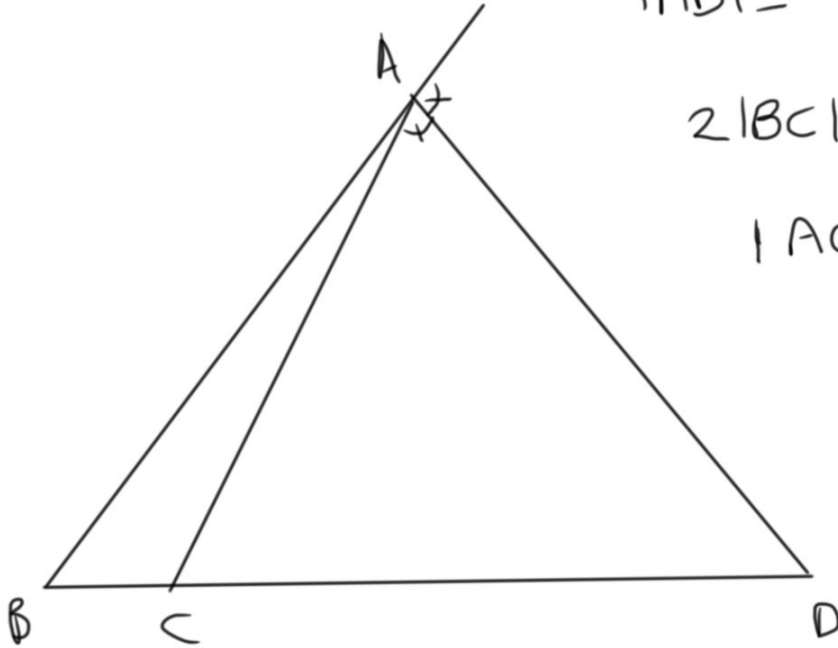
$$\frac{z}{t} = ?$$



DIŞ AÇIORTAY TEOREMİ:



ALİŞTIRMA # 10



$$|AB| = |AC| + 4$$

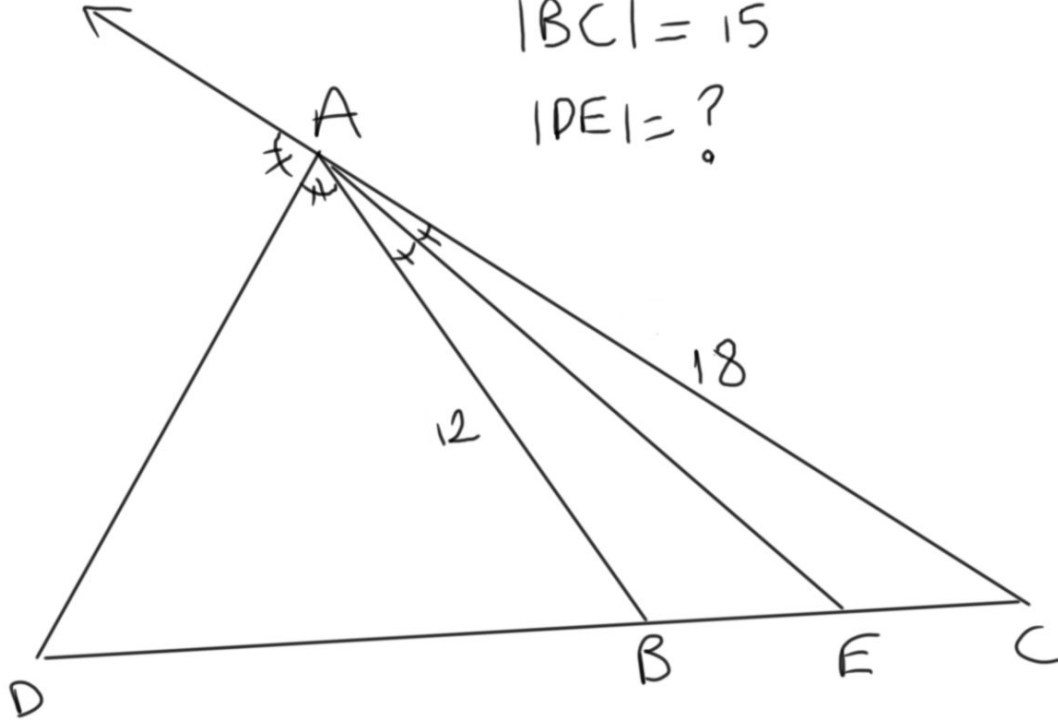
$$2|BC| = 3|CD|$$

$$|AC| = ?$$

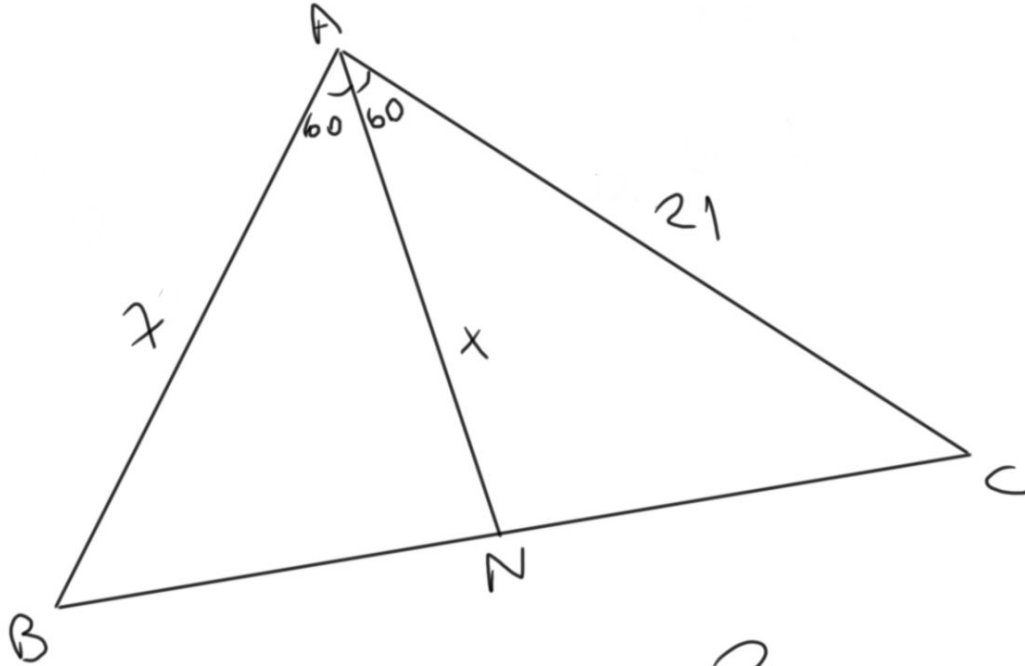
ALIŞTIRMA # 11

$$|BC| = 15$$

$$|DE| = ?$$

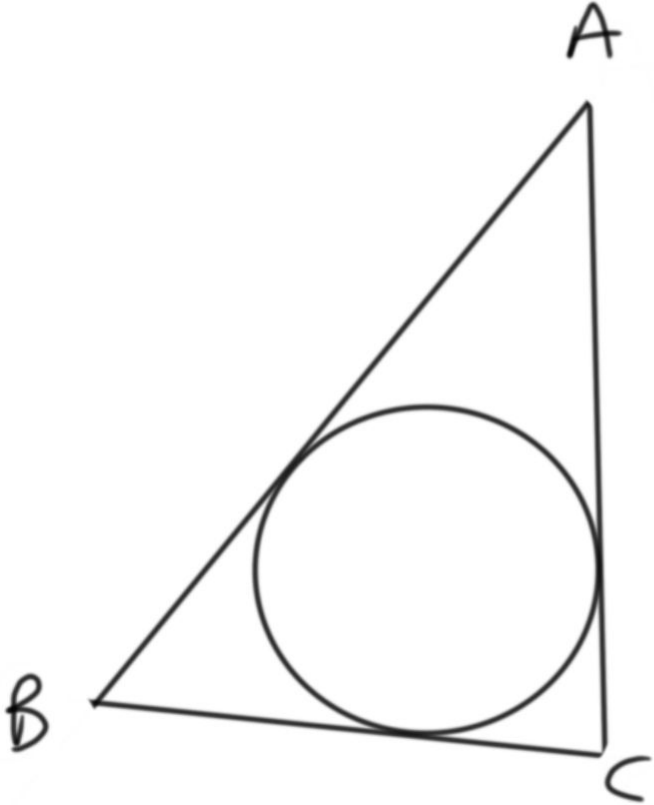


ALİŞTIRMA # 12

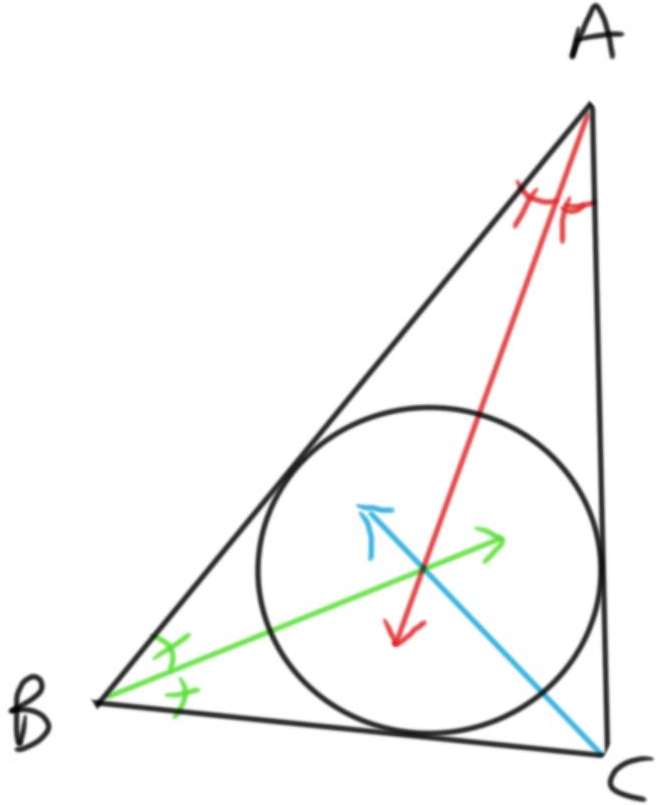


$$x = ?$$

İÇ AÇIORTAYLAR <---> İÇ TEĞET ÇEMBER

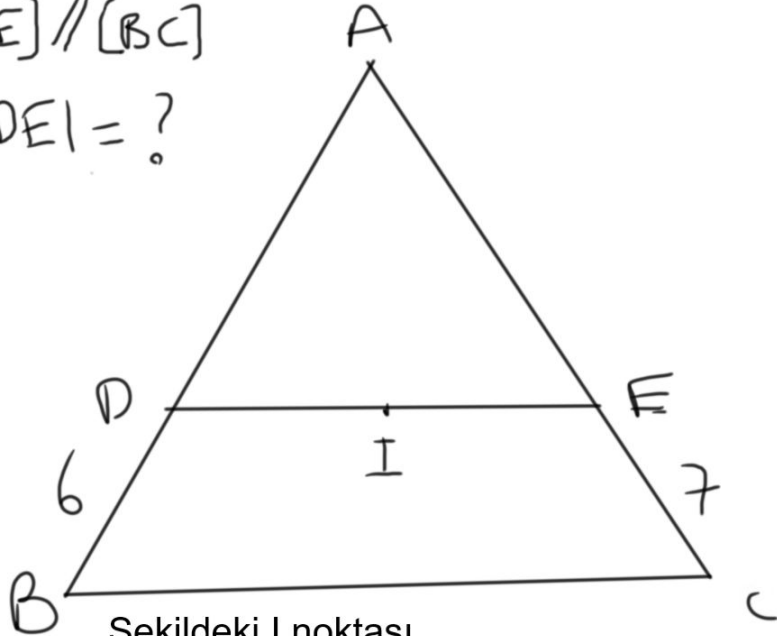


TÜM İÇ AÇIORTAYLAR $\langle \text{---} \rangle$ İÇ TEĞET ÇEMBER



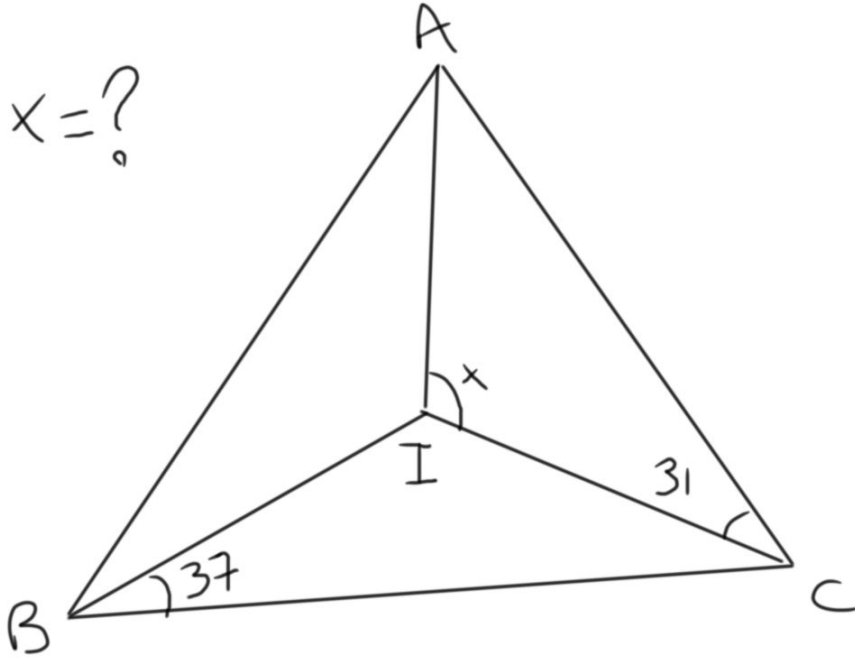
ALİŞTIRMA # 13

$[DE] \parallel [BC]$
 $|DE| = ?$



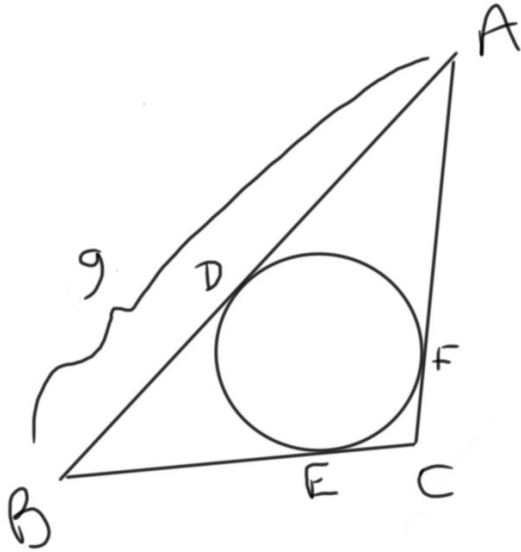
Şekildeki I noktası,
ABC üçgeninin
iç teğet çemberinin merkezidir.

ALİŞTIRMA # 14



I noktası, ABC üçgeninin iç teğet çemberinin merkezidir.

ALİŞTIRMA # 15



$$P(\triangle ABC) = 28$$

$$|EC| = ?$$

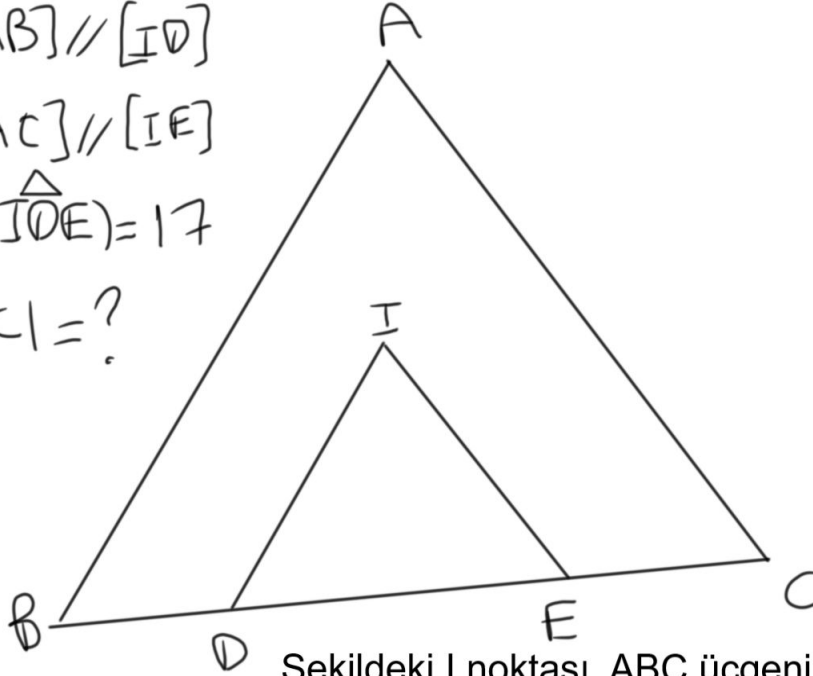
ALİŞTIRMA # 16

$$[AB] \parallel [ID]$$

$$[AC] \parallel [IE]$$

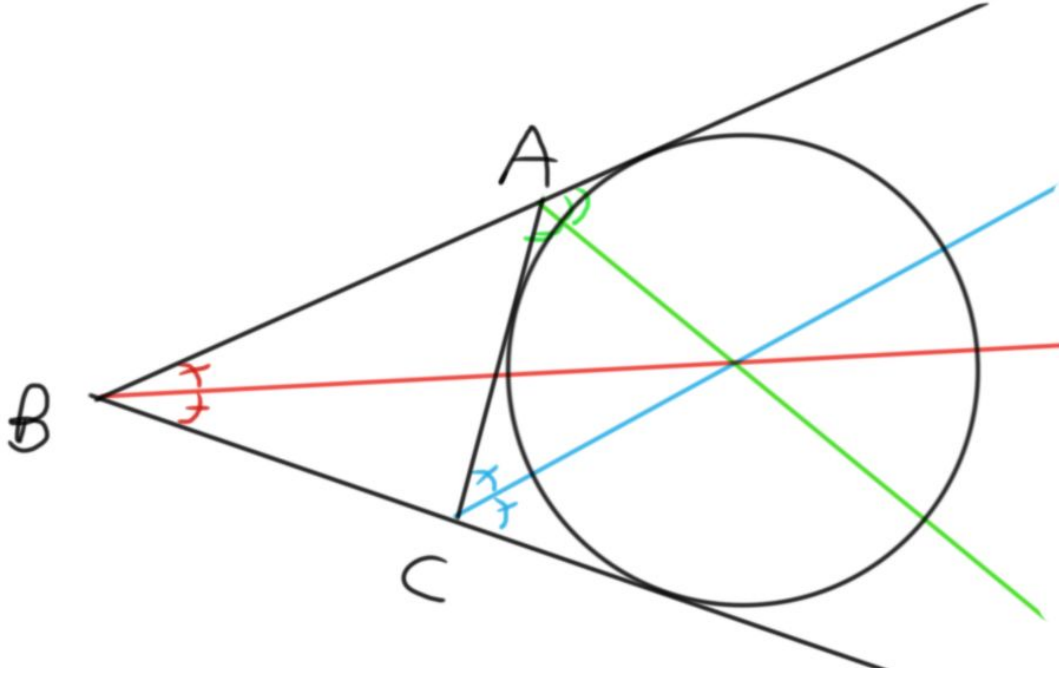
$$\angle (IDE) = 17$$

$$|BC| = ?$$

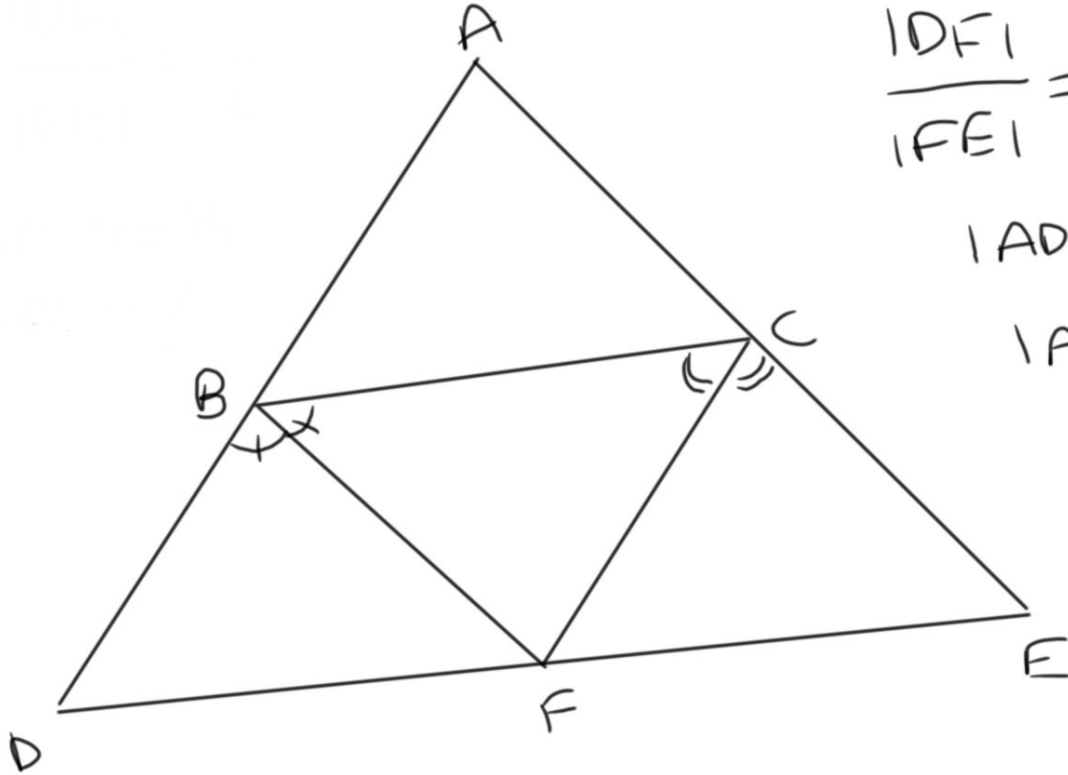


Şekildeki I noktası, ABC üçgeninin iç teğet çemberinin merkezidir.

BİR İÇ & İKİ DIŞ AÇIORTAY <---> DIŞ TEĞET ÇEMBER



ALİŞTIRMA # 17

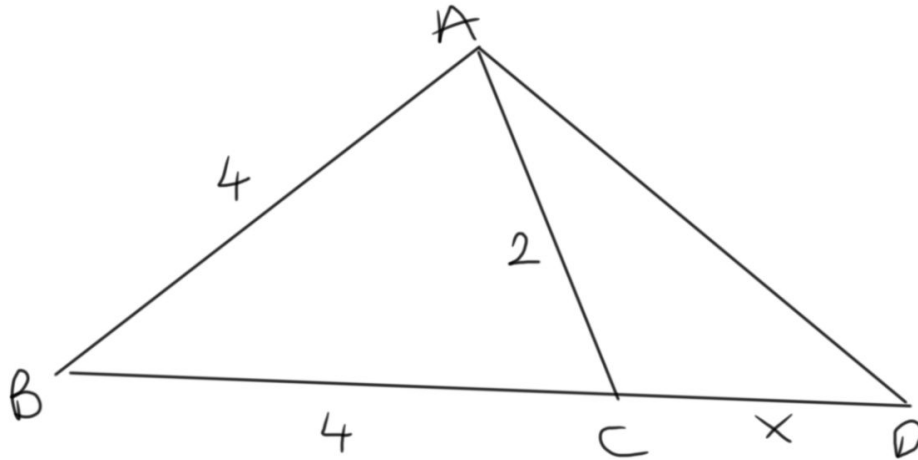


$$\frac{|DF|}{|FE|} = \frac{5}{3}$$

$$|AD| = 15$$

$$|AE| = ?$$

ÖDEV # 1

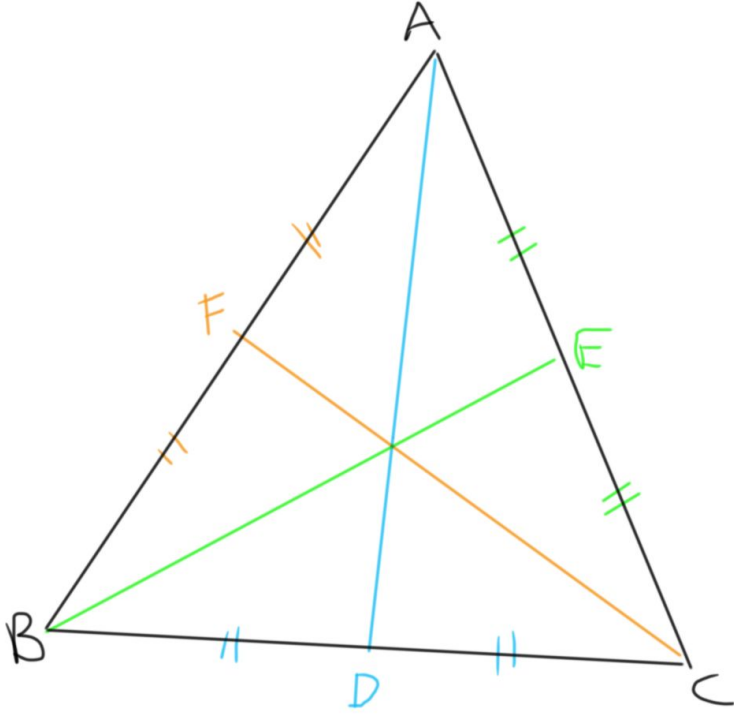


$$m(\widehat{ACD}) = 2m(\widehat{DAC})$$

$$x = ?$$

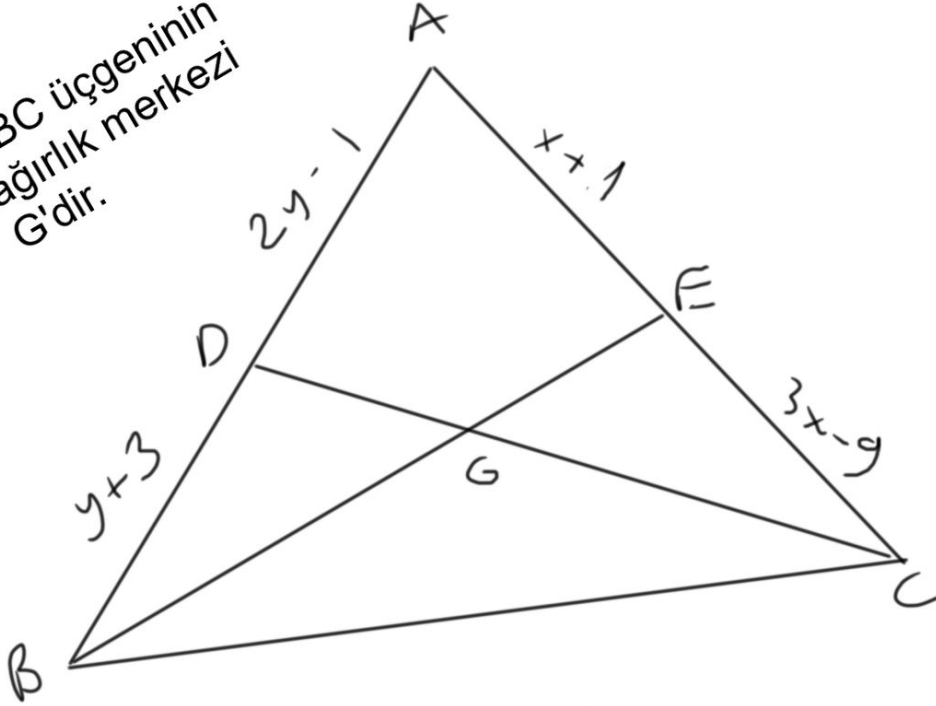
ÜÇGENDE
KENARORTAY

KENARORTAY NEDİR? KENARORTAYLAR NEREDE KESİŞİR?



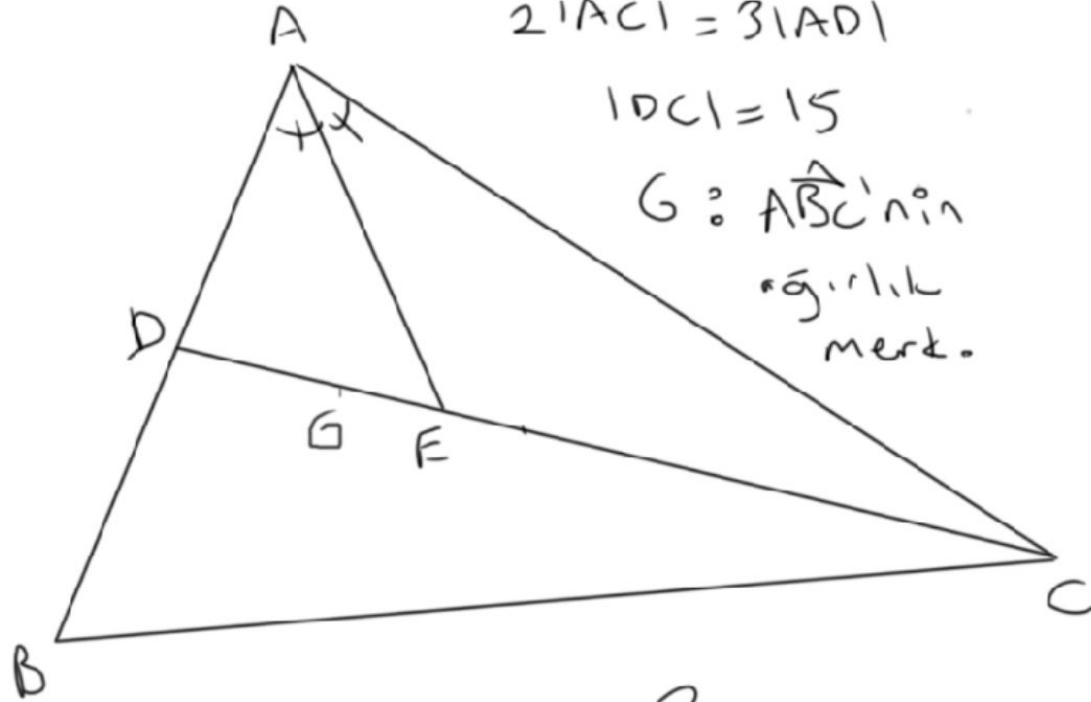
ALİŞTIRMA # 18

ABC üçgeninin
ağırlık merkezi
G'dir.



$$2x + 3y = ?$$

ALİŞTIRMA # 19



$$2 | AC | = 3 | AD |$$

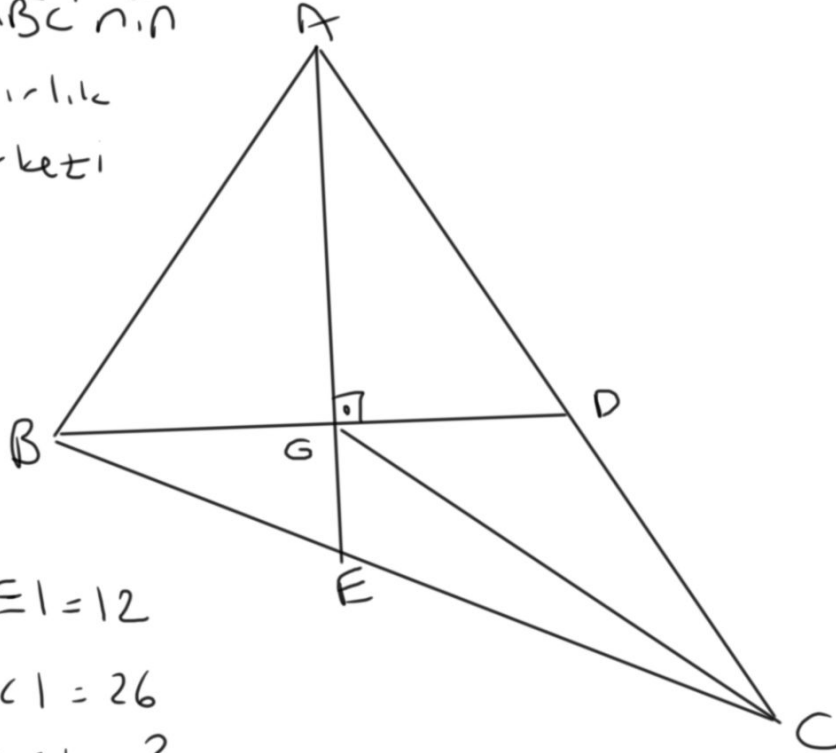
$$| DC | = 15$$

G : $\triangle ABC$ 'nin
ağırlık
merk.

$$| EG | = ?$$

ALİŞTIRMA # 20

G; $\triangle ABC$ 'nin
ağırlık
merkezi



$$|GE| = 12$$

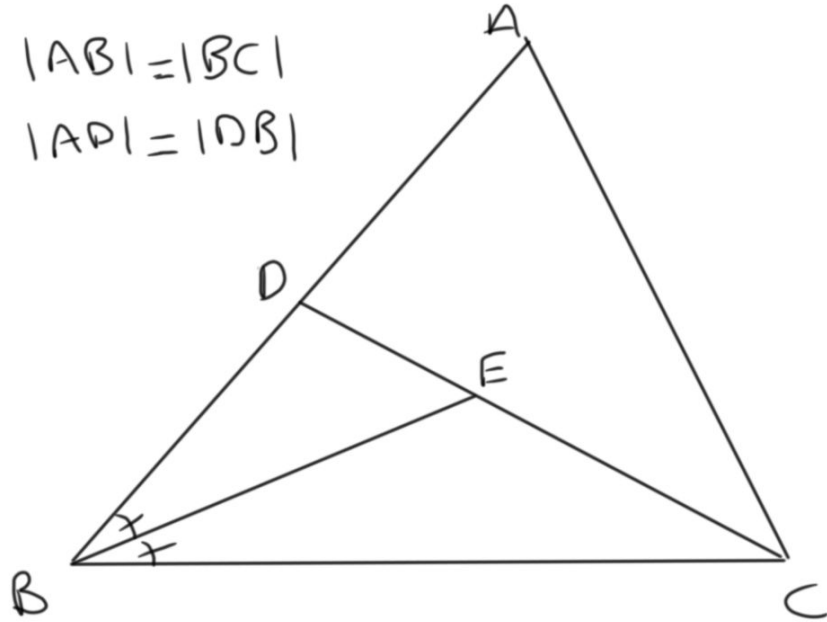
$$|GC| = 26$$

$$|DG| = ?$$

ALİŞTIRMA # 21

$$|AB| = |BC|$$

$$|AD| = |DB|$$



$$|DE| = 25$$

$$|BE| = 28$$

$$|AC| = ?$$

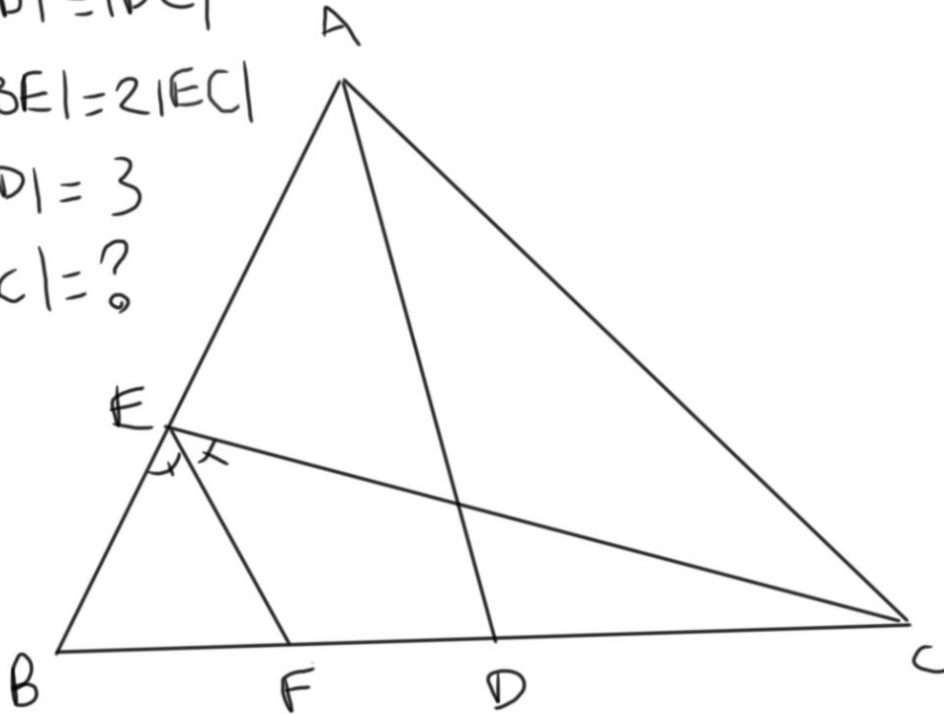
ALİŞTIRMA # 22

$$|BD| = |DC|$$

$$3|BE| = 2|EC|$$

$$|FD| = 3$$

$$|BC| = ?$$

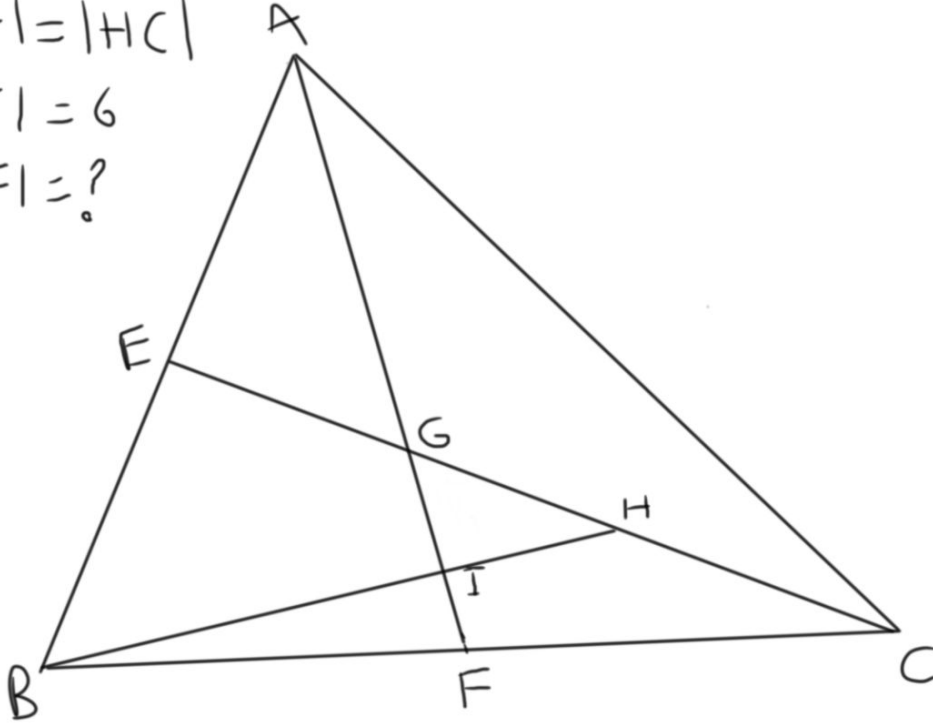


ALİŞTIRMA # 23

$$|GH| = |HC|$$

$$|GJ| = 6$$

$$|AF| = ?$$



ABC üçgeninin ağırlık merkezi G'dir.

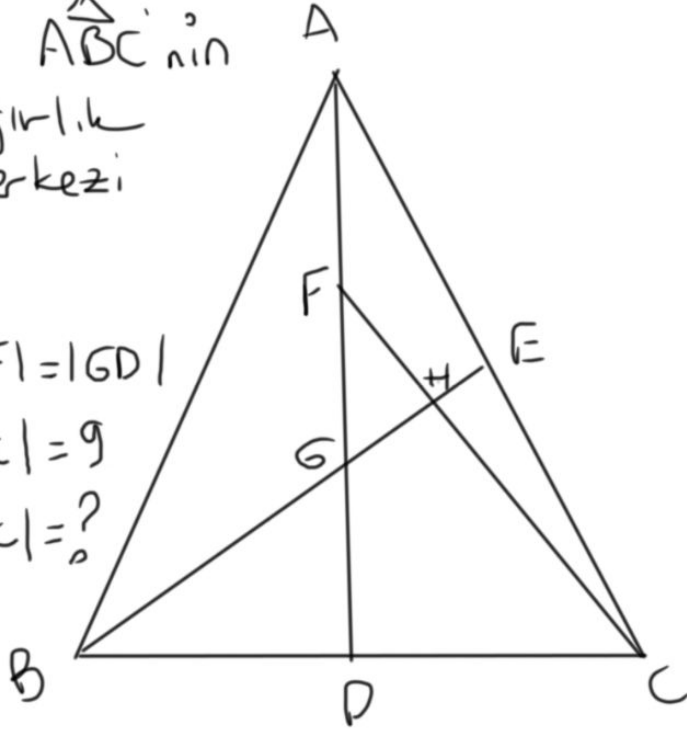
ALİŞTIRMA # 24

G, $\triangle ABC$ 'nin
ağırlık
merkezi

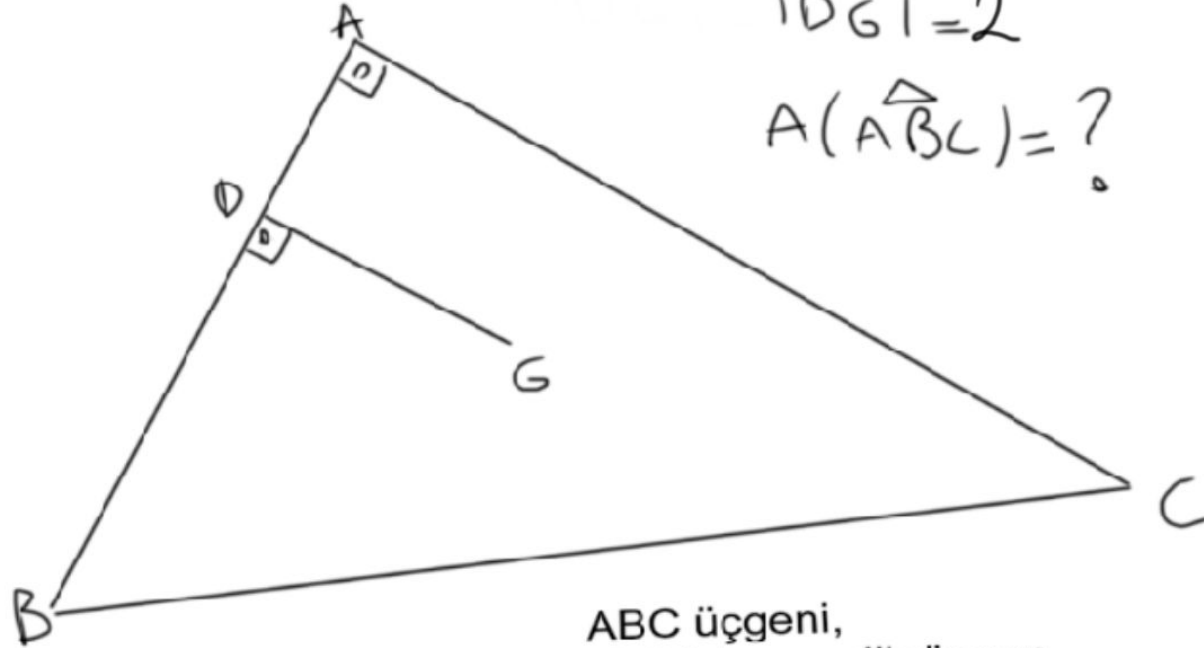
$$|AF| = |GD|$$

$$|FC| = 9$$

$$|HC| = ?$$



ALİŞTIRMA # 25

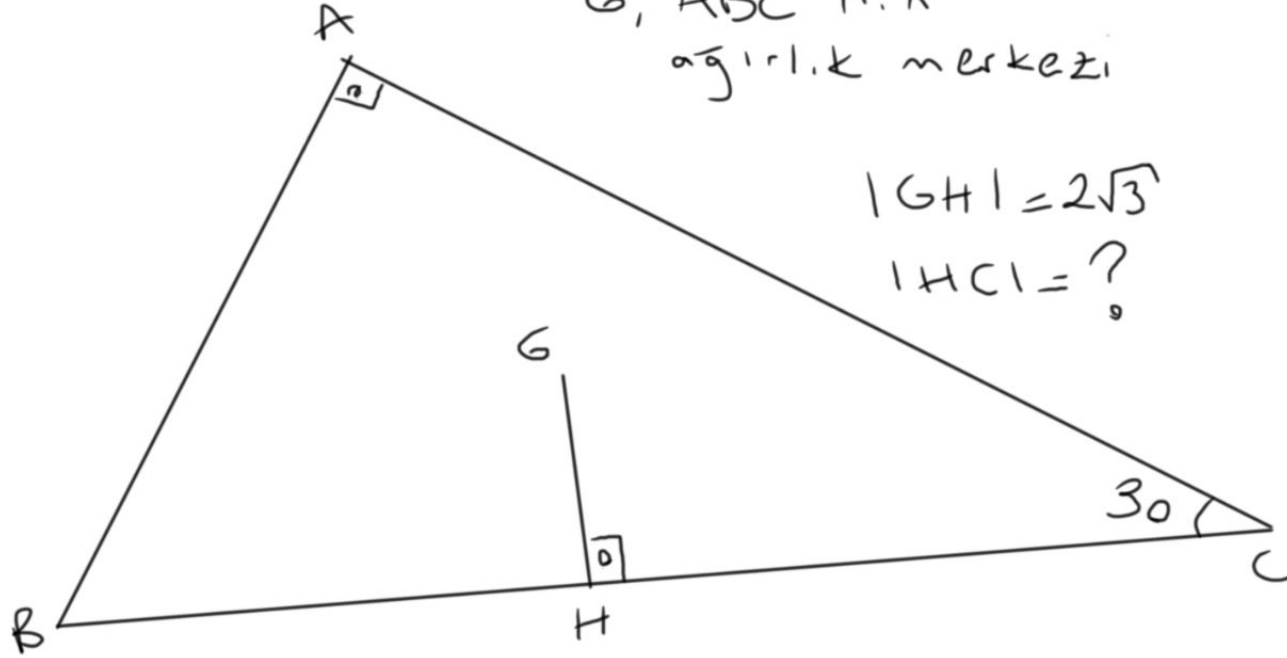


$$|DG| = 2$$
$$A(\triangle ABC) = ?$$

ABC üçgeni,
bir ikizkenar dik üçgen
ve G, onun ağırlık merkezi.

ALİŞTIRMA # 26

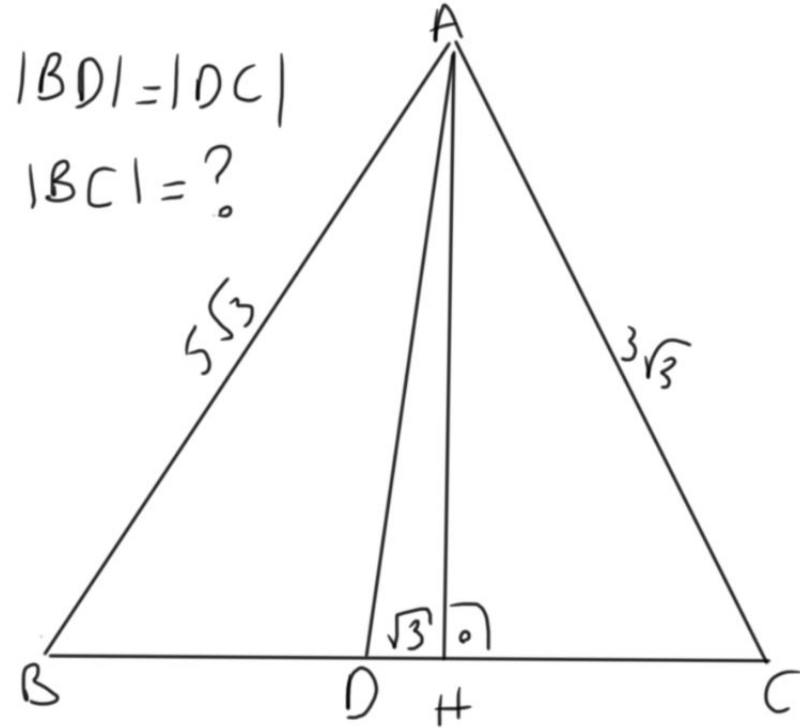
6, $\triangle ABC$ 'nin
ağırlık merkezi



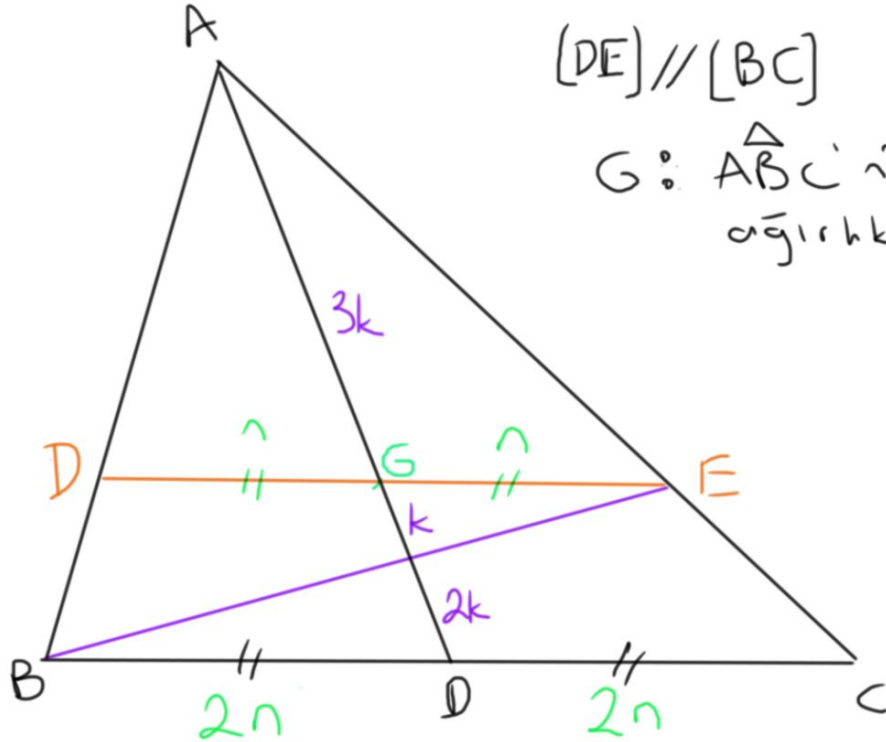
$$|GH| = 2\sqrt{3}$$

$$|HC| = ?$$

ALİŞTIRMA # 27



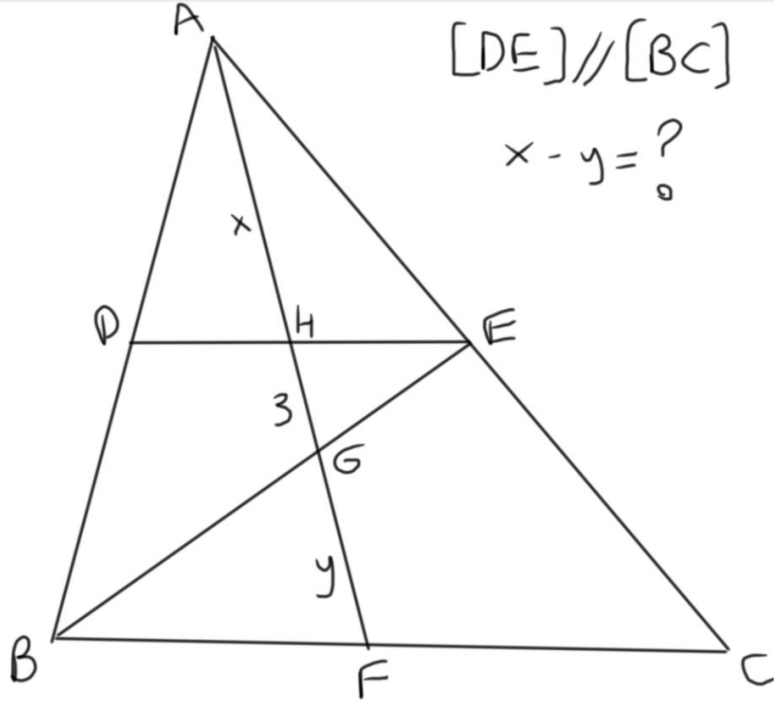
KENARORTAYA DAİR KURALLAR # 1



$[DE] \parallel [BC]$

G : $\triangle ABC$ 'nin
ağırlık merkezi

ALİŞTIRMA # 28

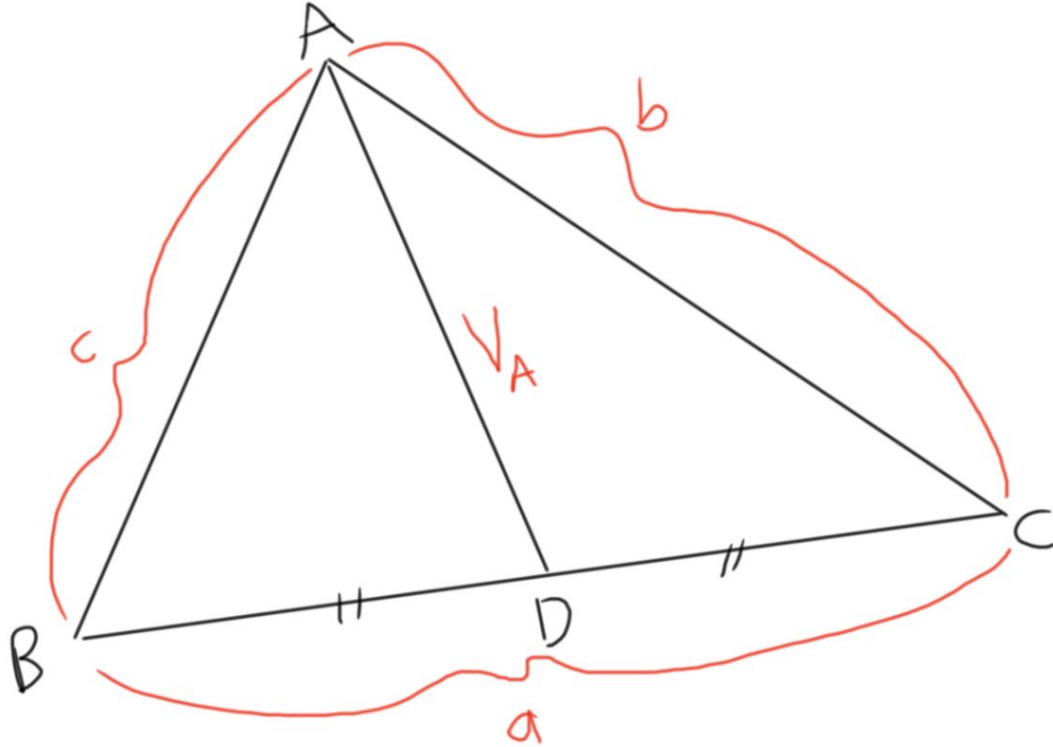


$$[DE] \parallel [BC]$$

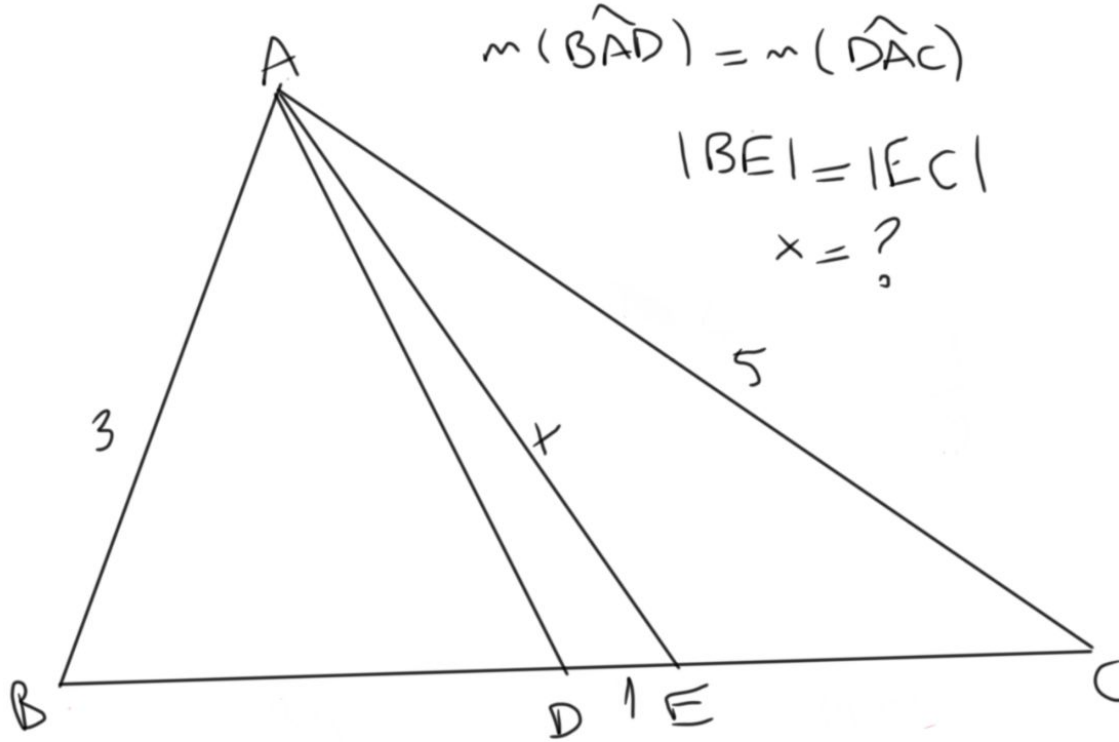
$$x - y = ?$$

G : \widehat{ABC} 'nin ağırlık merkezi

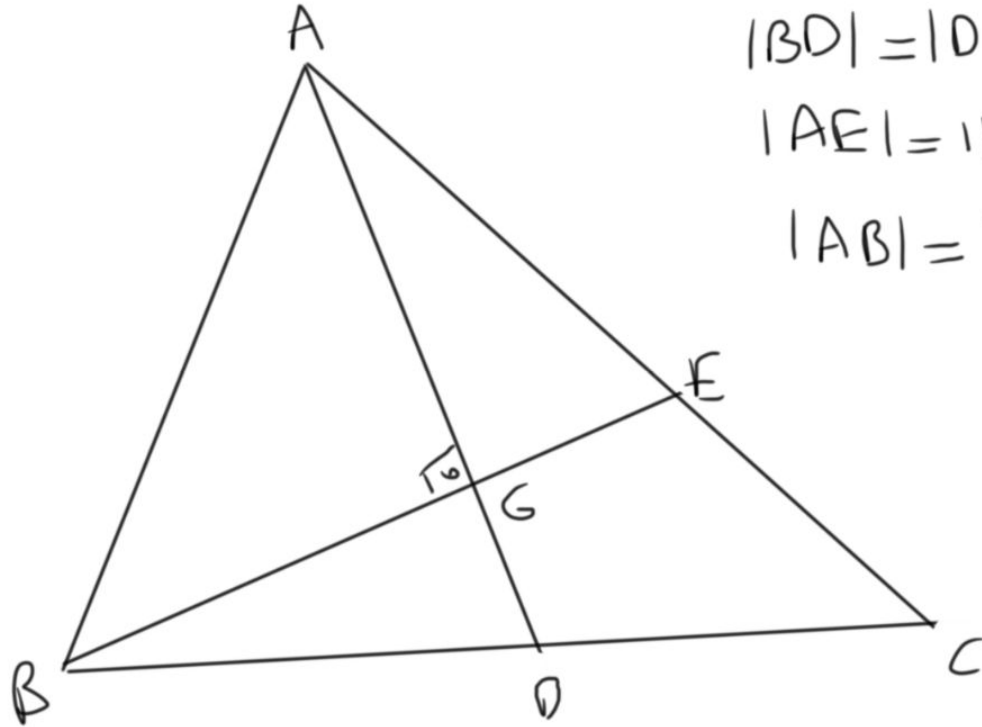
KENARORTAYIN UZUNLUĐU



ALİŞTIRMA # 29



ALİŞTIRMA # 30



$$|BD| = |DC| = 4$$

$$|AE| = |EC| = 2$$

$$|AB| = ?$$

ALİŞTIRMA # 31

$\triangle ABC$ 'de

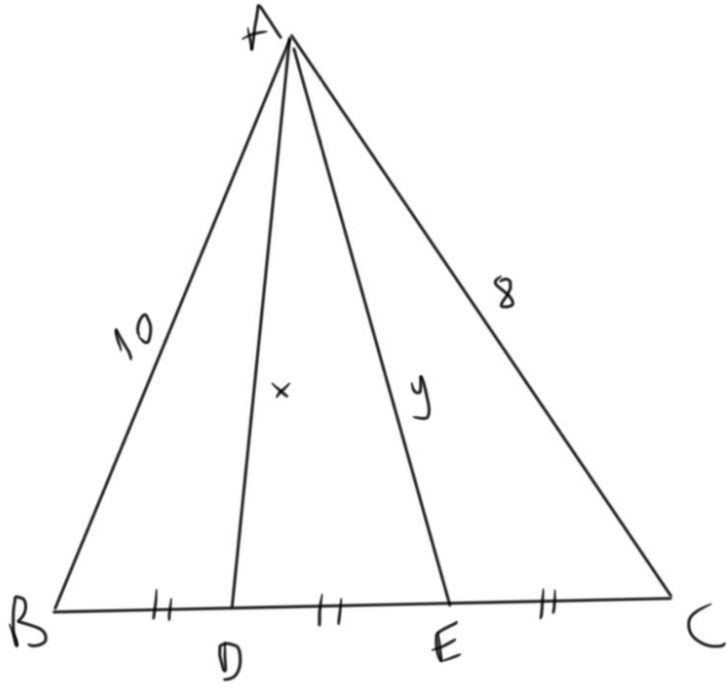
$$V_a = 2\sqrt{2}$$

$$V_b = 2$$

$$V_c = 3\sqrt{2}$$

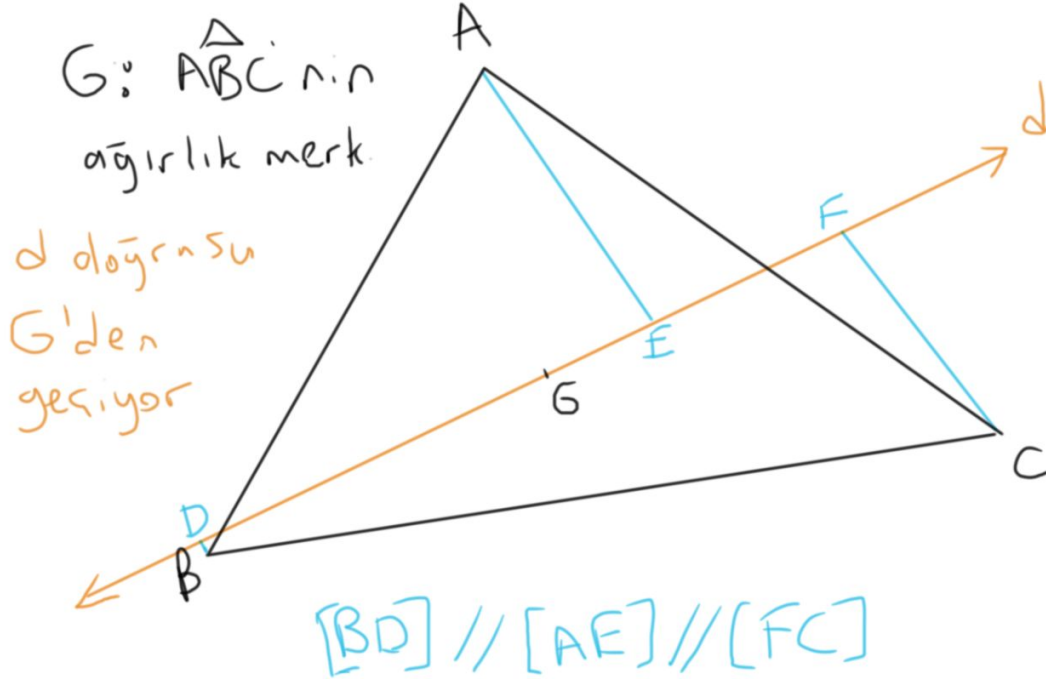
$$a = ?$$

ALİŞTIRMA # 32



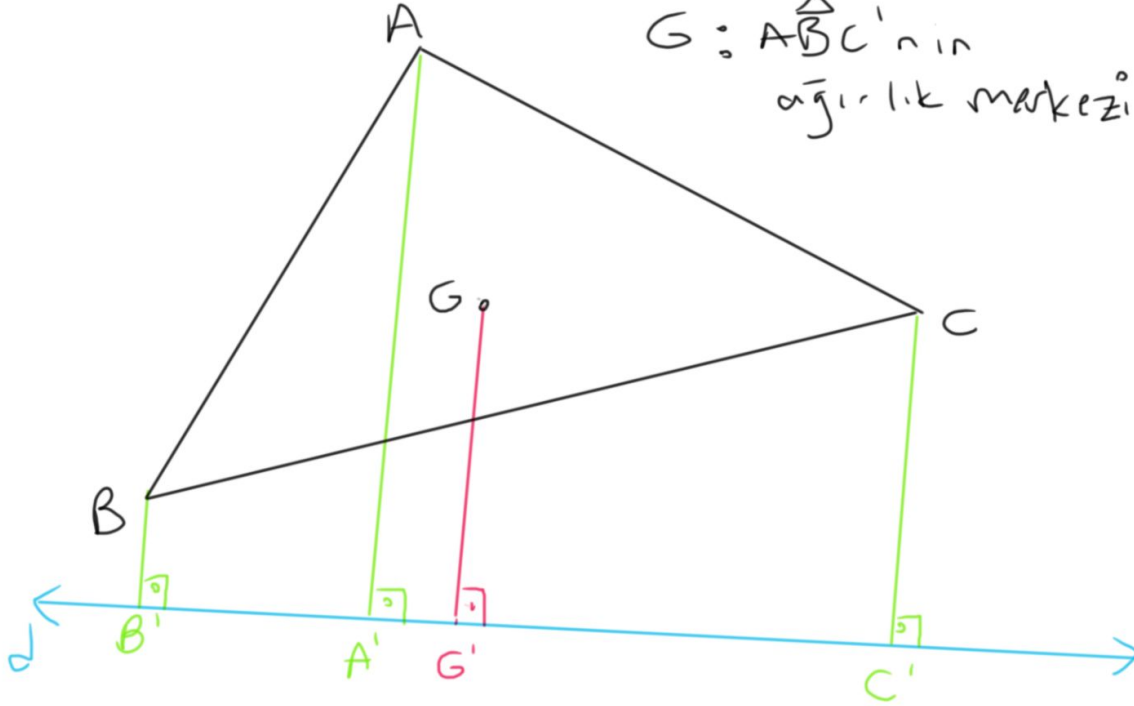
$$x^2 - y^2 = ?$$

KENARORTAYA DAİR KURALLAR # 2

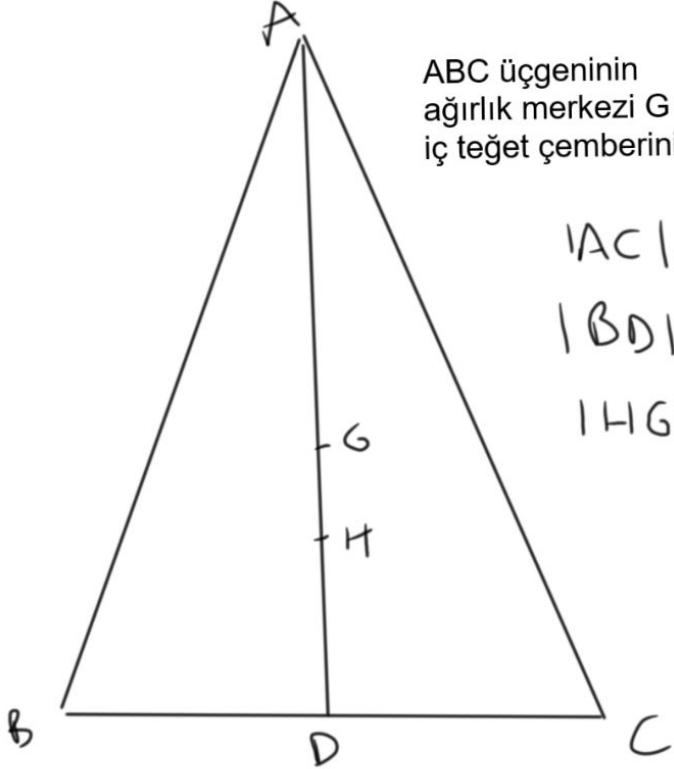


KENARORTAYA DAİR KURALLAR # 3

G : $\triangle ABC$ 'nin
ağırlık merkezi



ÖDEV # 2



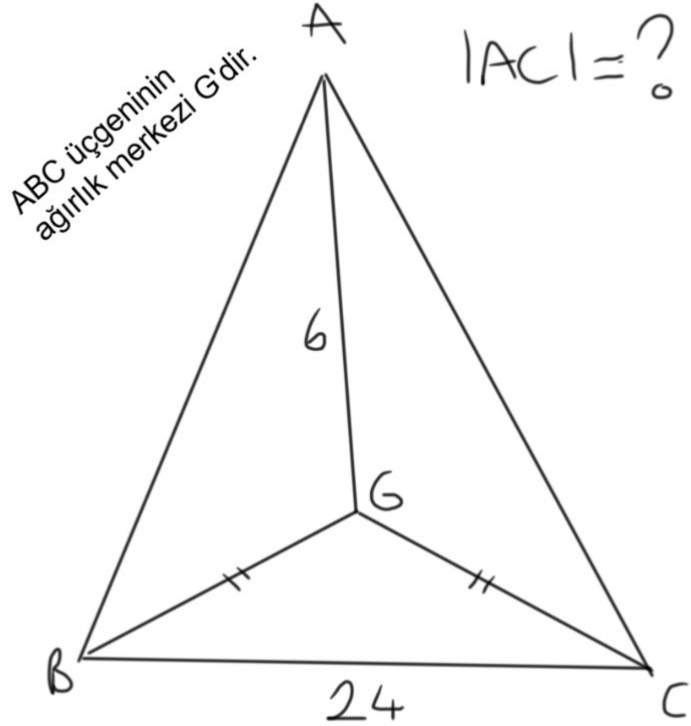
ABC üçgeninin
ağırlık merkezi G ve
iç teğet çemberinin merkezi H'dir.

$$|AC| = 34$$

$$|BD| = 16$$

$$|HG| = ?$$

ÖDEV # 3



ÖDEV # 4

$\triangle ABC$ 'de

$$V_a^2 + V_b^2 + V_c^2 = 9$$

olduğuna göre,

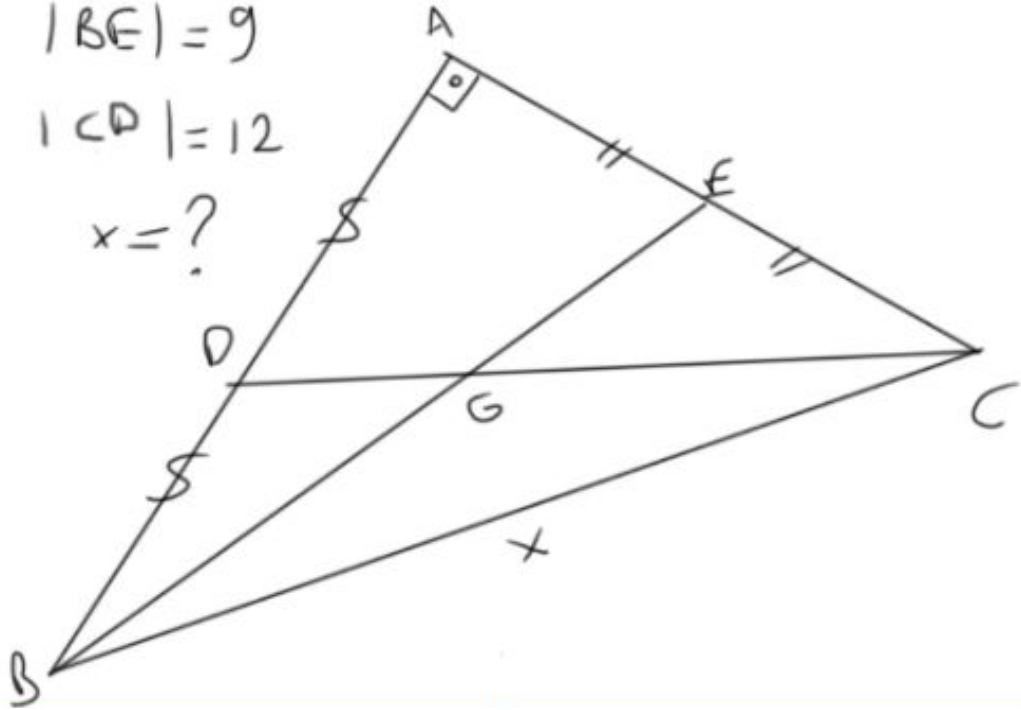
$$a^2 + b^2 + c^2 = ?$$

ÖDEV # 5

$$|BE| = 9$$

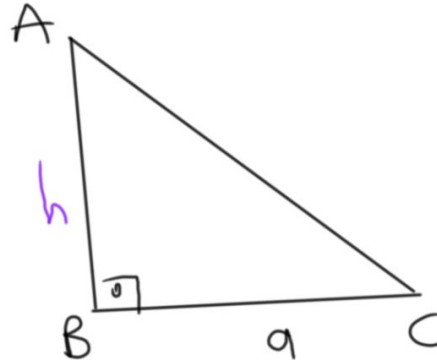
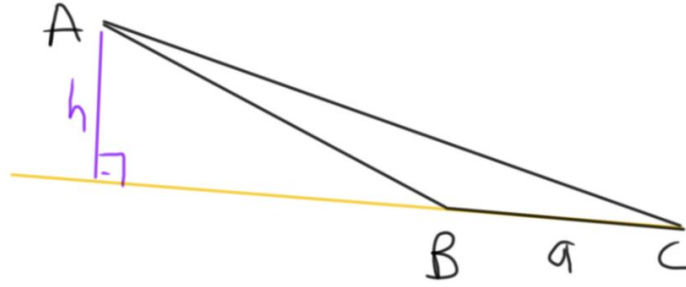
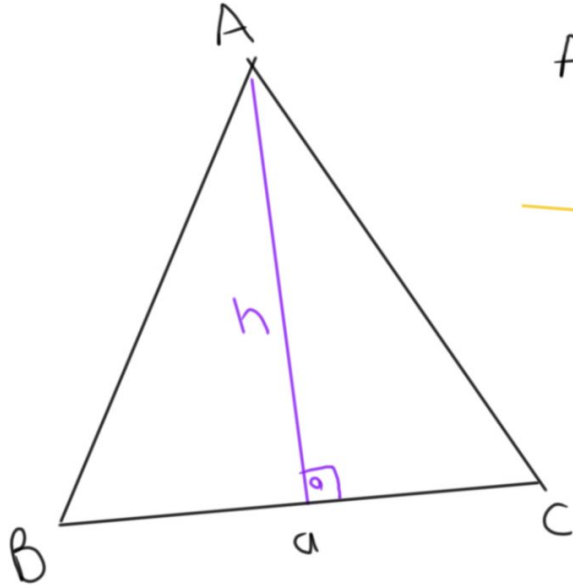
$$|CD| = 12$$

$$x = ?$$

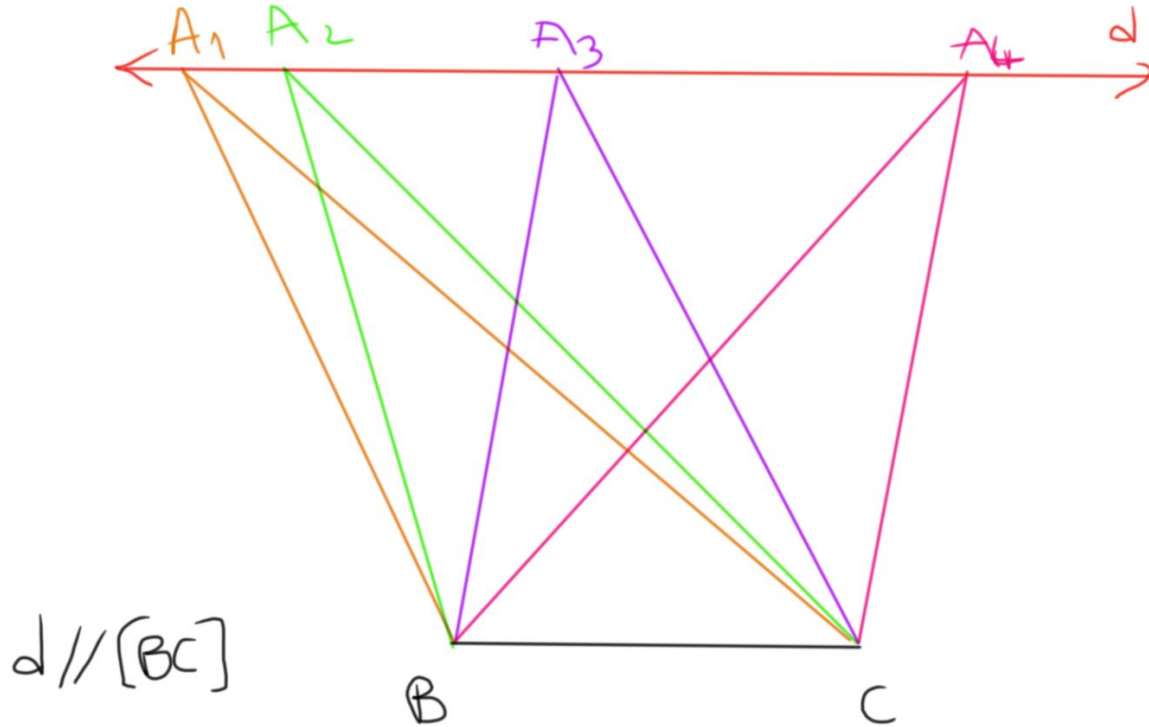


ÜÇGENDE
5
ALAN

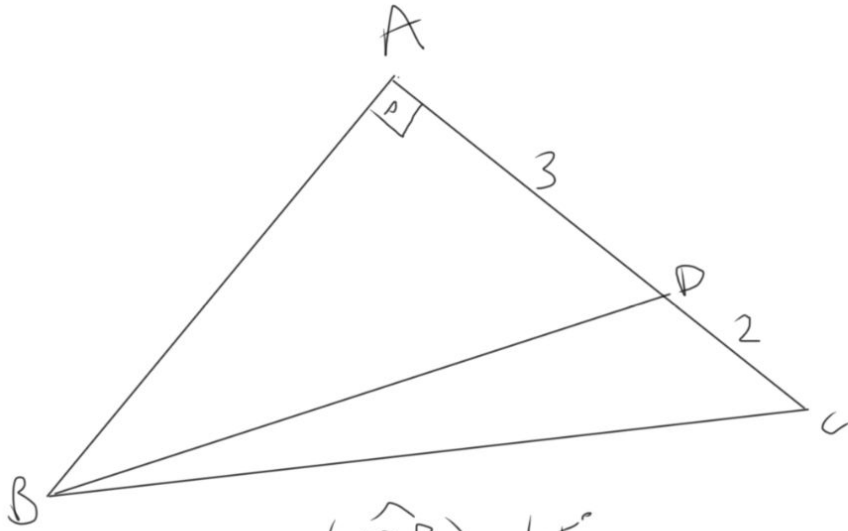
ÜÇGENİN ALANI NASIL HESAPLANIR?



ÜÇGENİN ALANI NASIL HESAPLANIR?



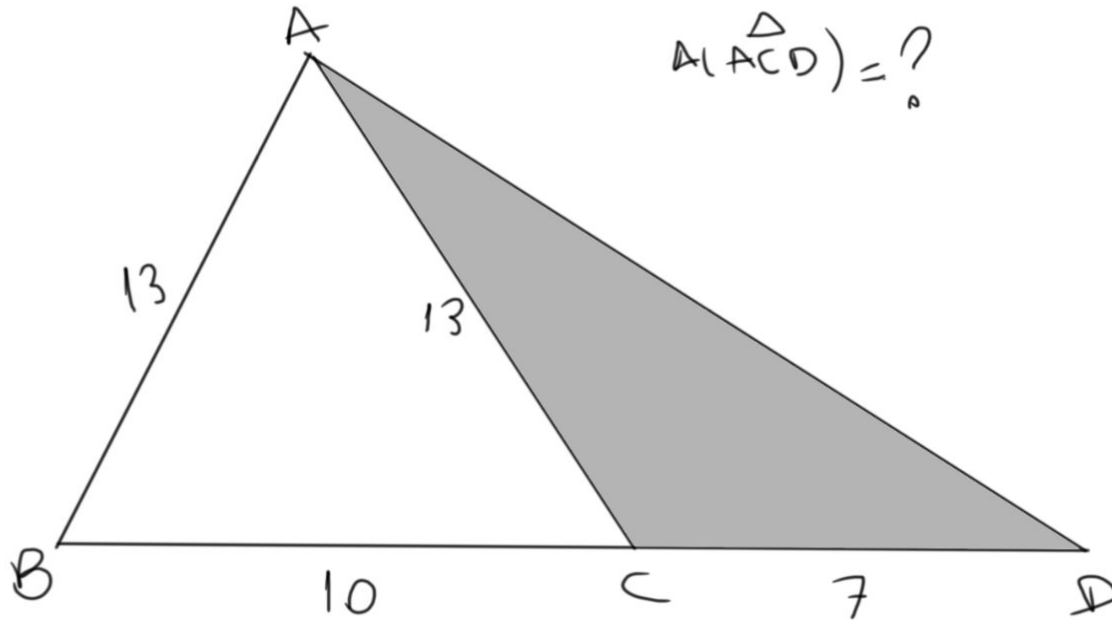
ALİŞTIRMA # 33



$$m(\widehat{ADB}) = 45^\circ$$

$$A(\widehat{BDC}) = ?$$

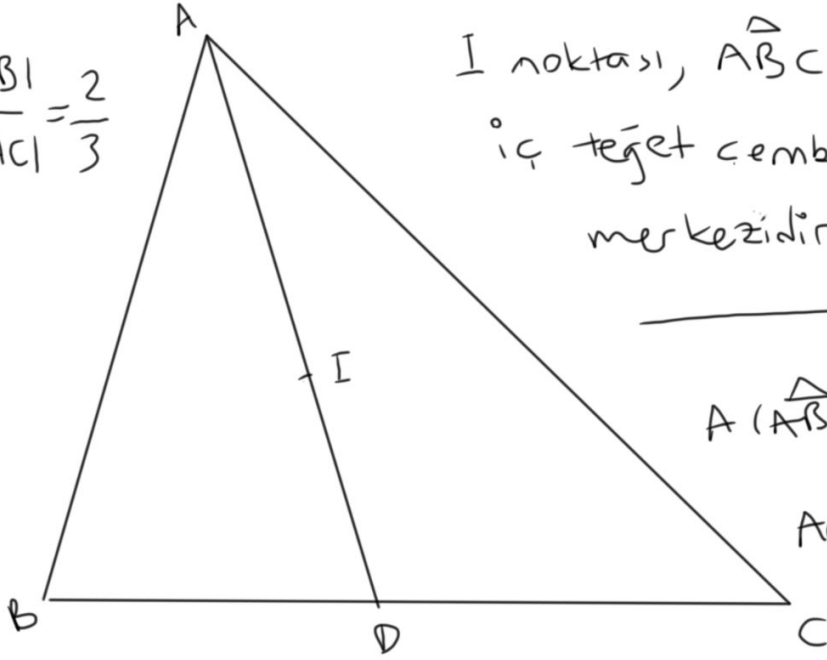
ALİŞTIRMA # 34



$$A(\triangle ACD) = ?$$

ALİŞTIRMA # 35

$$\frac{|AB|}{|AC|} = \frac{2}{3}$$

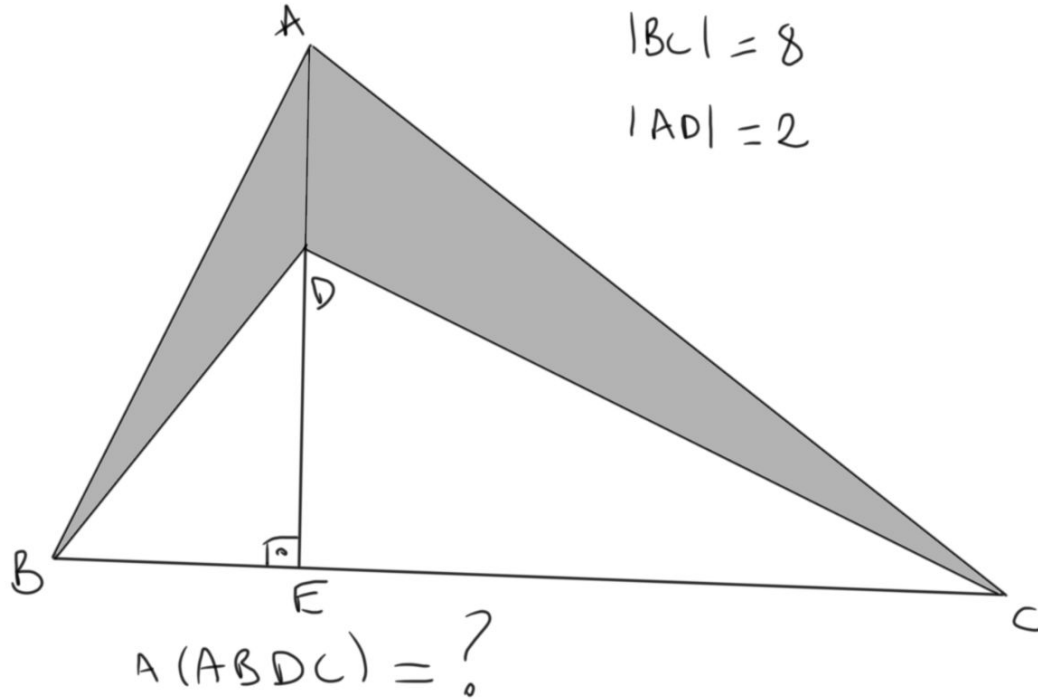


I noktası, $\triangle ABC$ 'nin iç teğet çemberinin merkezidir.

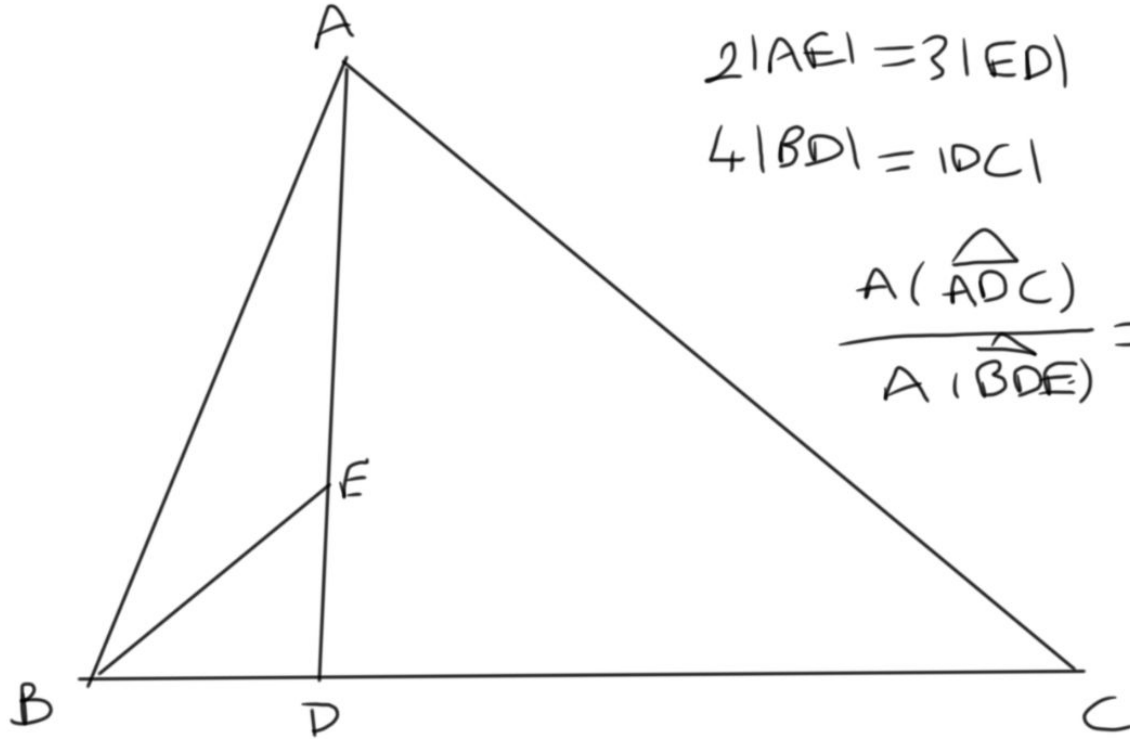
$$A(\triangle ABC) = 65$$

$$A(\triangle ADC) = ?$$

ALİŞTIRMA # 36



ALİŞTIRMA # 37



$$2|AE| = 3|ED|$$

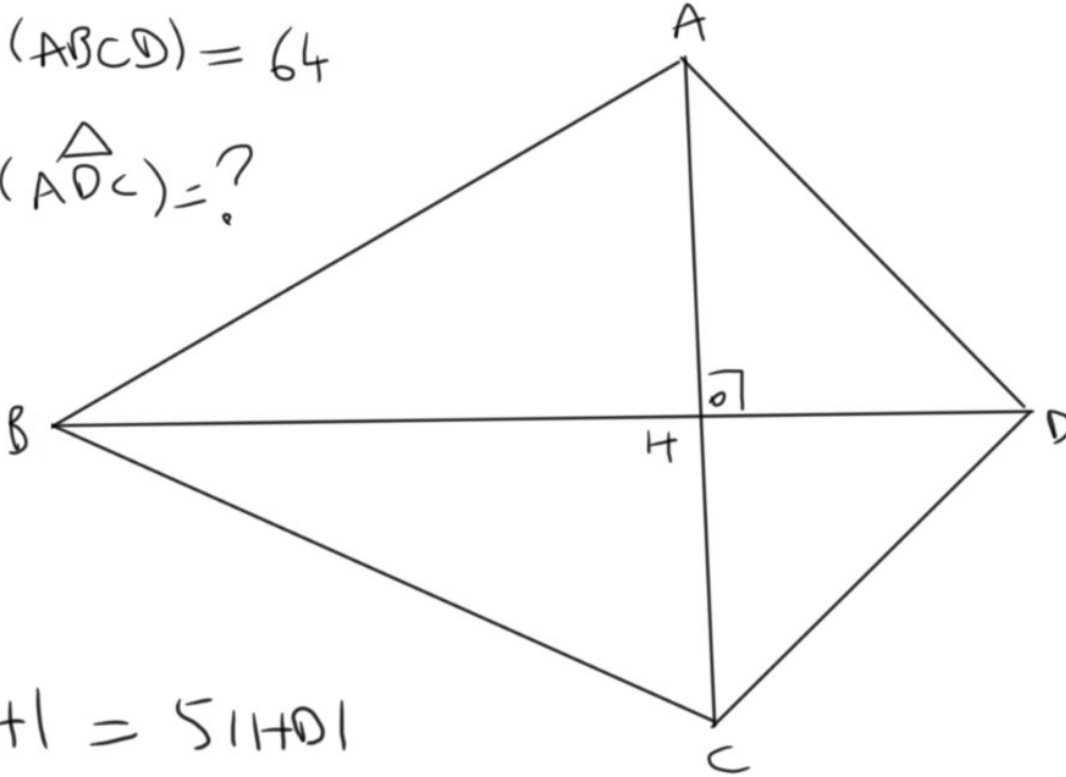
$$4|BD| = |DC|$$

$$\frac{A(\triangle ADC)}{A(\triangle BDE)} = ?$$

ALİŞTIRMA # 38

$$A(ABCD) = 64$$

$$A(\triangle ADC) = ?$$



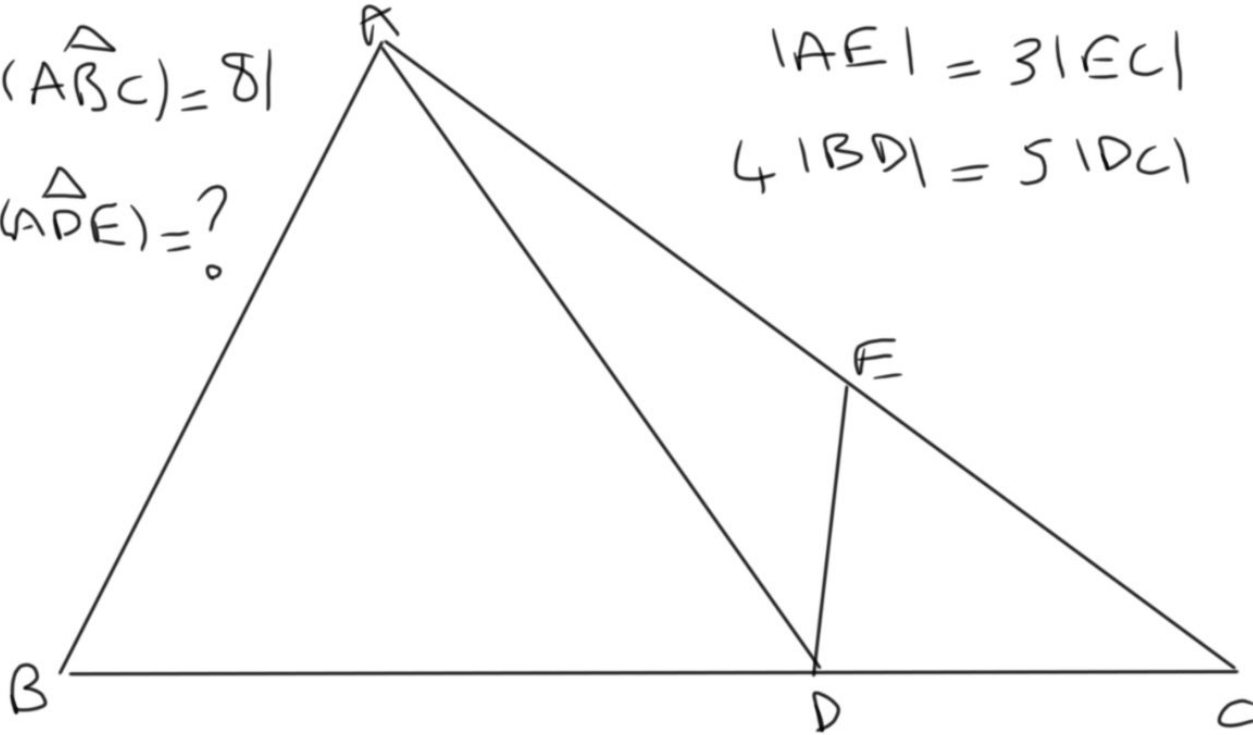
$$3|BH| = 5|HD|$$

ALİŞTIRMA # 39

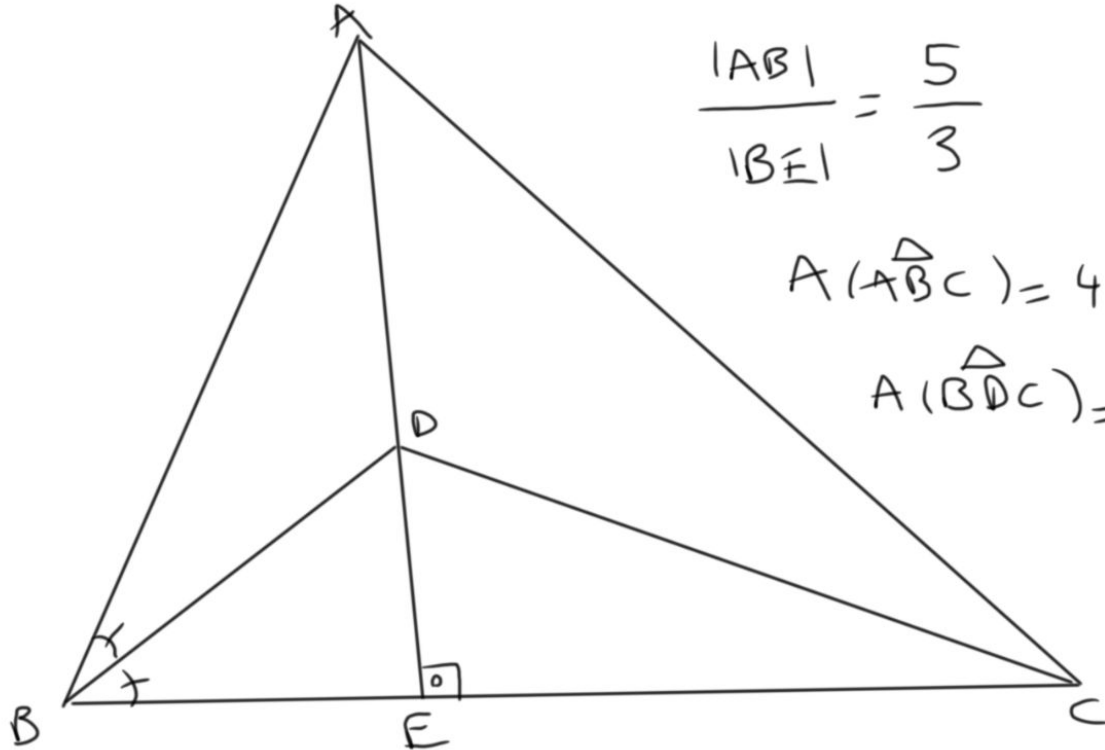
$$A(\triangle ABC) = 81$$

$$A(\triangle ADE) = ?$$

$$|AE| = 3|EC|$$
$$4|BD| = 5|DC|$$



ALİŞTIRMA # 40



$$\frac{|AB|}{|BE|} = \frac{5}{3}$$

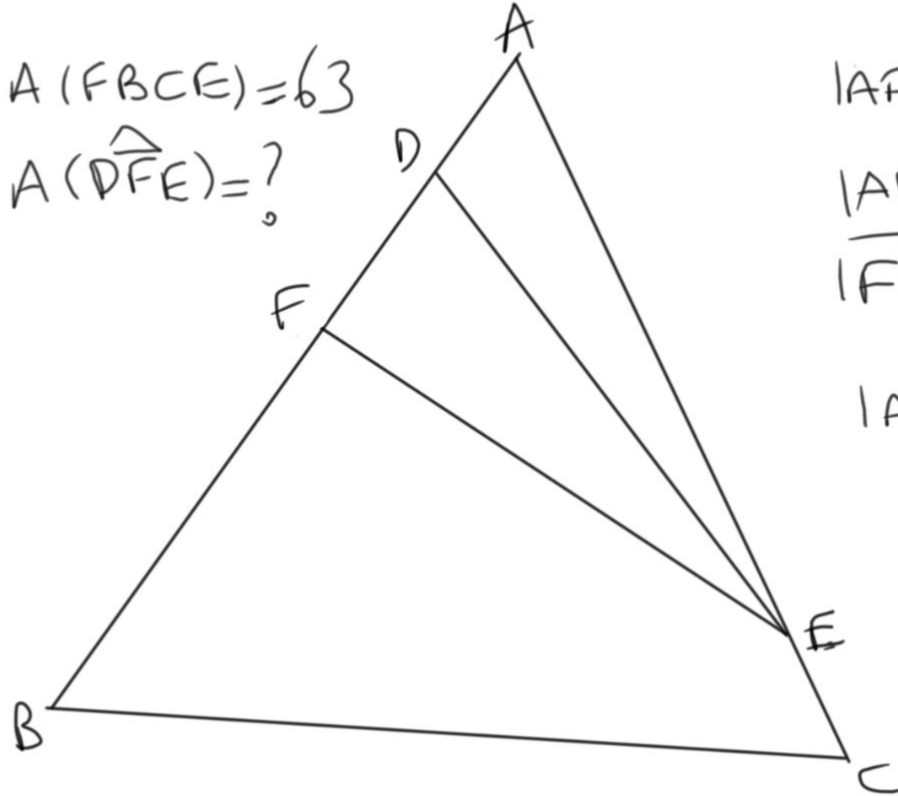
$$A(\triangle ABC) = 40$$

$$A(\triangle BDC) = ?$$

ALİŞTIRMA # 4]

$$A(FBCE) = 63$$

$$A(\widehat{DFE}) = ?$$

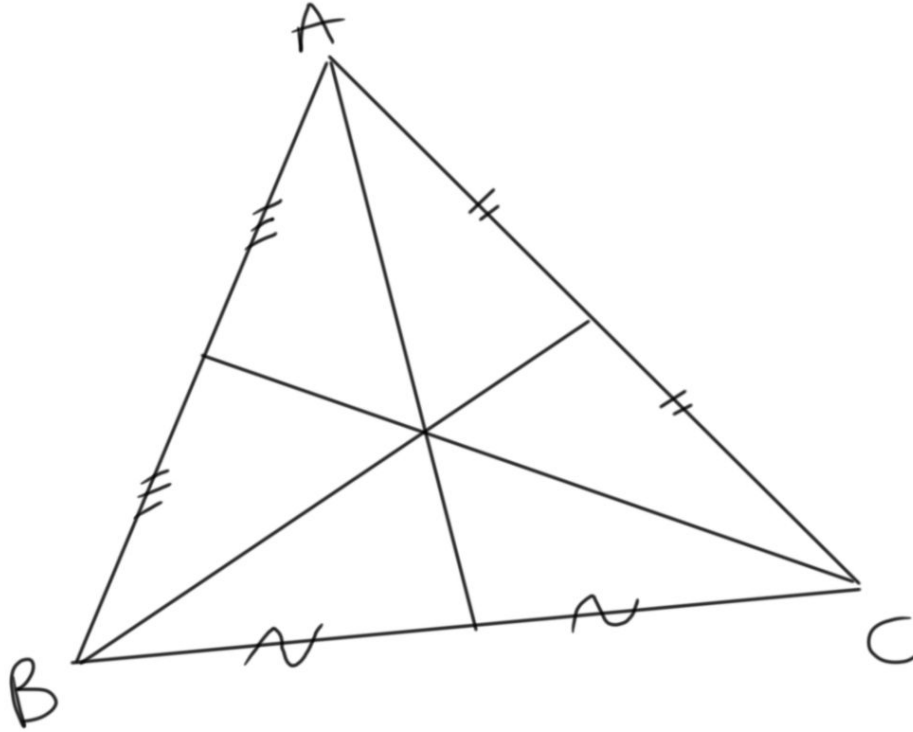


$$|AF| = |BF|$$

$$\frac{|AD|}{|FD|} = \frac{2}{3}$$

$$|AC| = 6|EC|$$

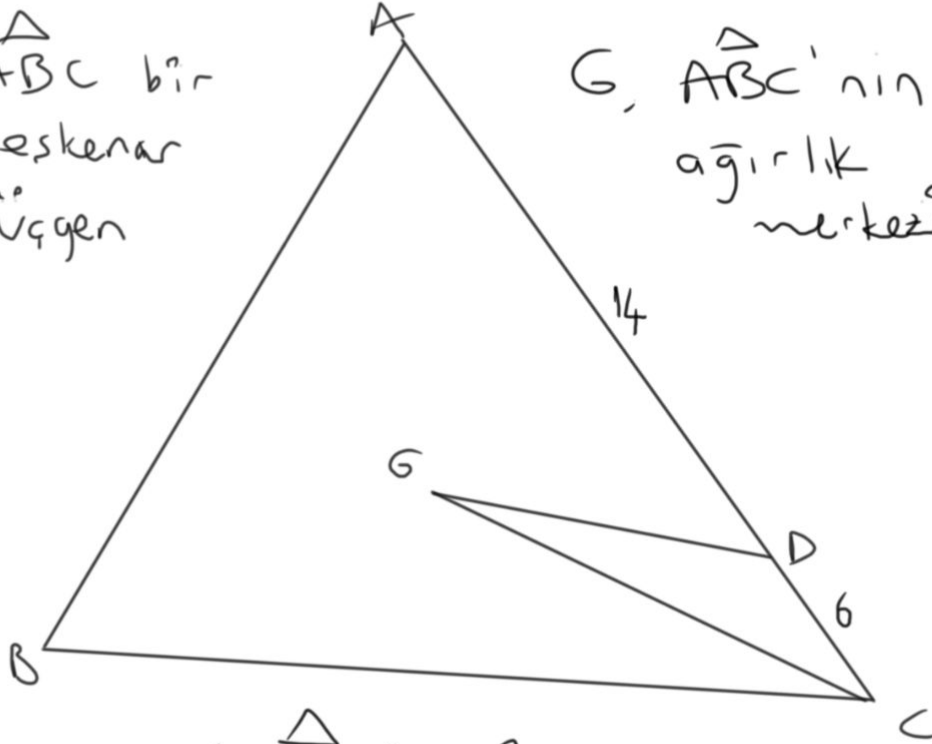
ÜÇGENİN ALANI (---) KENARORTAYLAR



ALİŞTIRMA # 42

$\triangle ABC$ bir
eskenar
üçgen

G , $\triangle ABC$ 'nin
ağırlık
merkezi



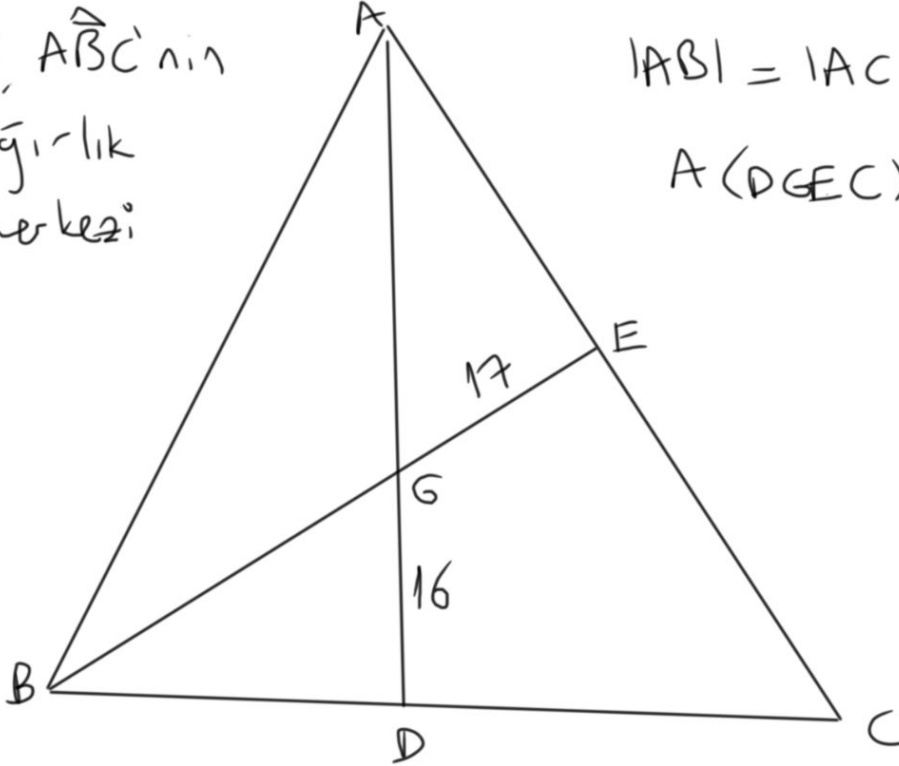
$$A(\triangle GDC) = ?$$

ALİŞTIRMA # 43

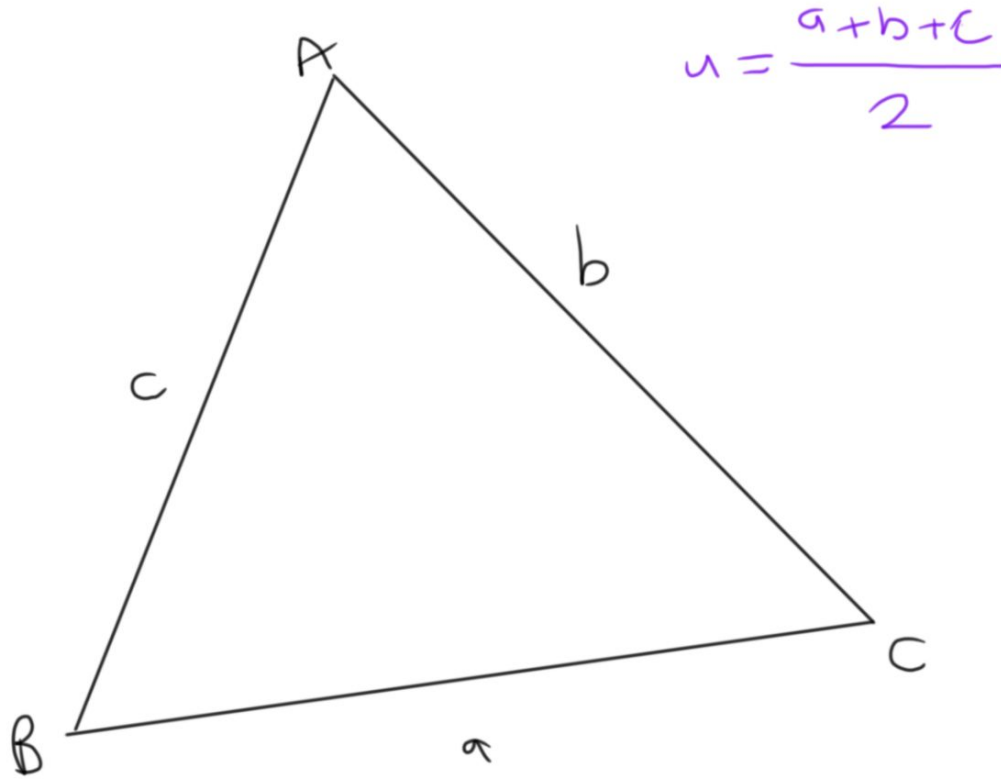
G, $\triangle ABC$ 'nin
ağırlık
merkezi

$$|AB| = |AC|$$

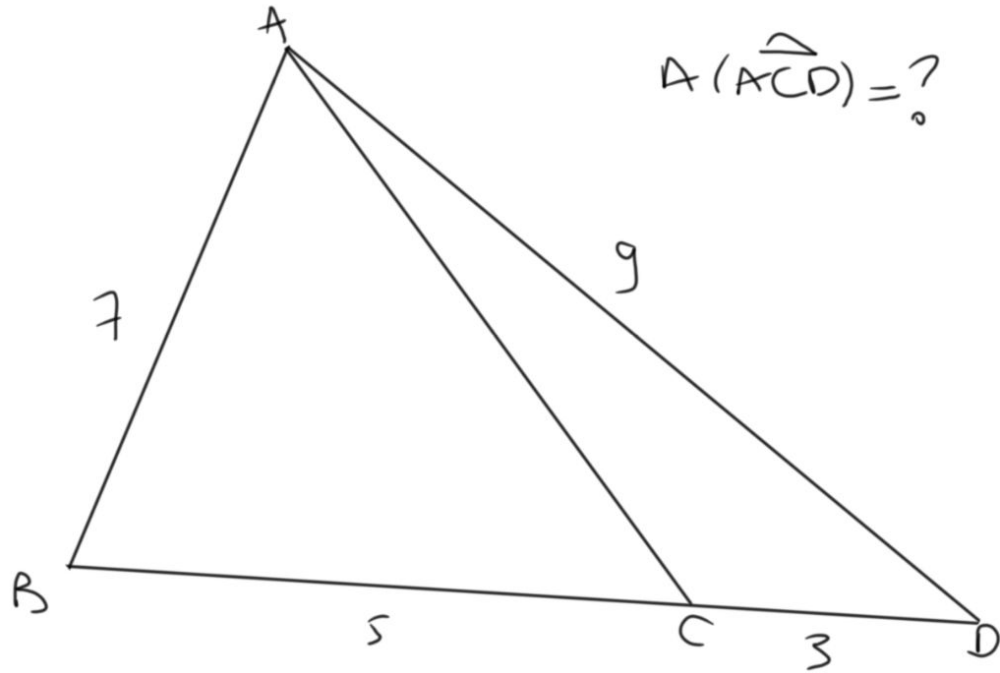
$$A(\triangle GEC) = ?$$



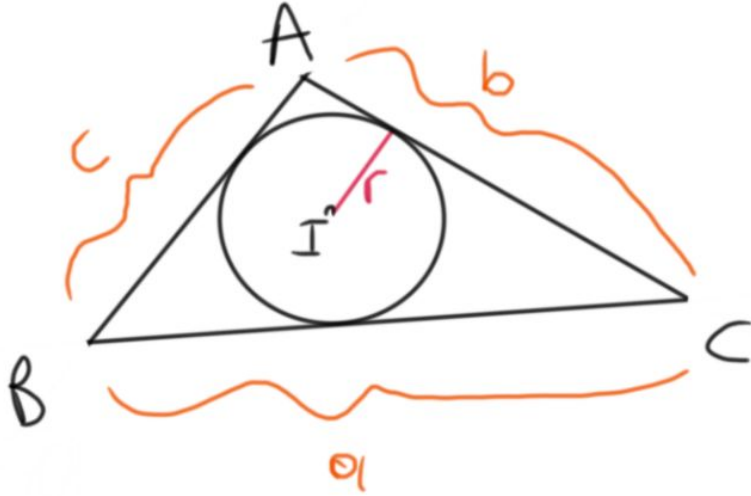
ÜÇGENİN ALANI (---) KENAR UZUNLUKLARI



ALİŞTIRMA # 44

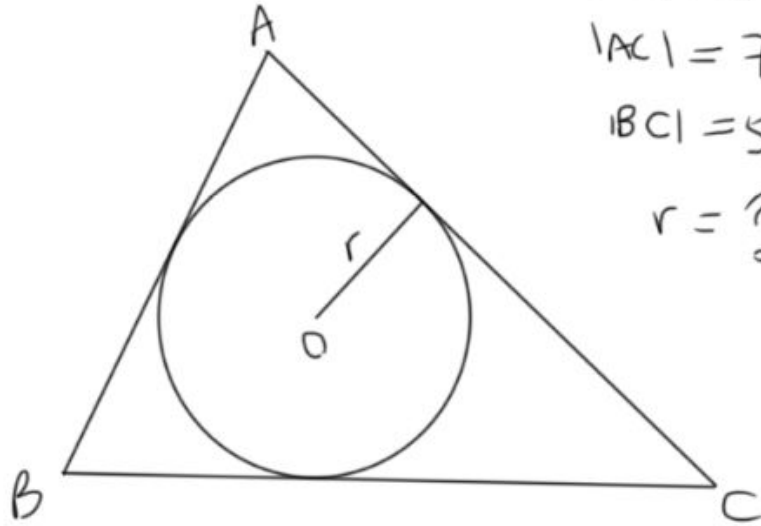


ÜÇGENİN ALANI $\langle \text{---} \rangle$ İÇ TEĞET ÇEMBERİN YARIÇAPI



$$u = \frac{a+b+c}{2}$$

ALİŞTIRMA # 45



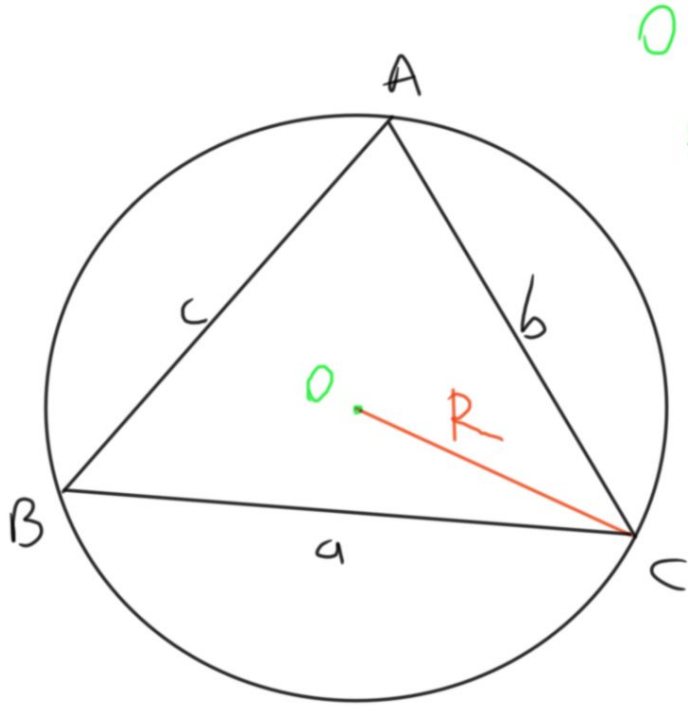
$$|AB| = 6$$

$$|AC| = 7$$

$$|BC| = 5$$

$$r = ?$$

ÜÇGENİN ALANI < --- > ÇEVREL ÇEMBERİN YARIÇAPI

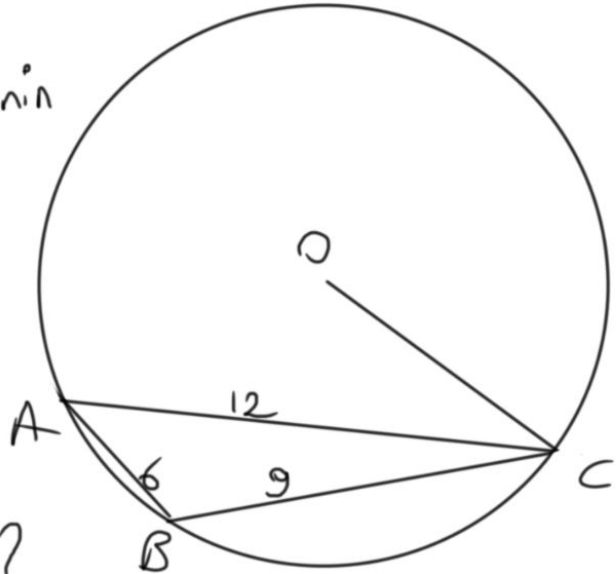


O noktası,
 $\triangle ABC$ 'nin
gevreli
çemberinin
merkezi

R noktası,
gevreli çemberin
yarıçapı

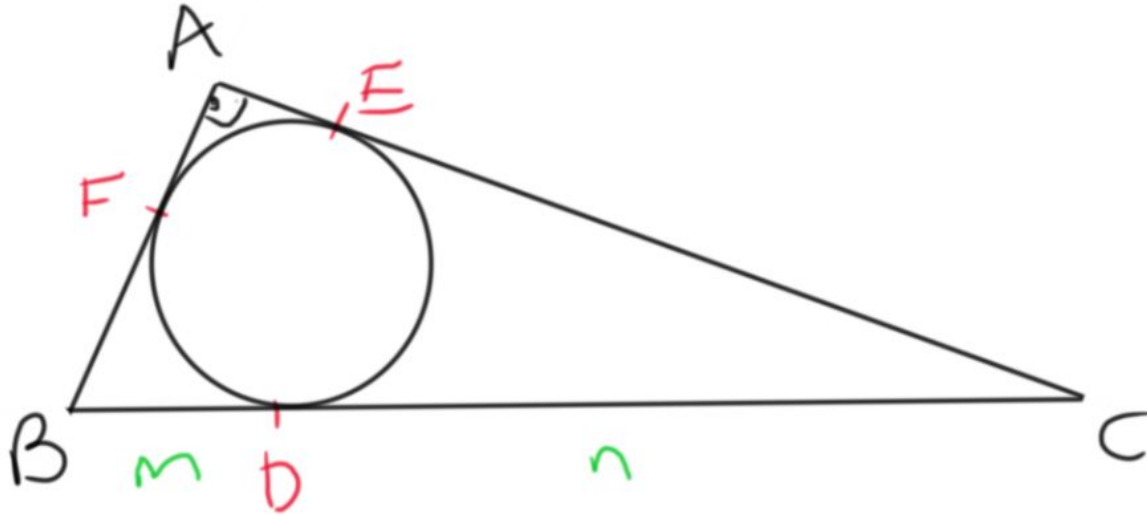
ALİŞTIRMA # 46

O noktası
 $\triangle ABC$ 'nin
çevrel
çemberinin
merkezi.



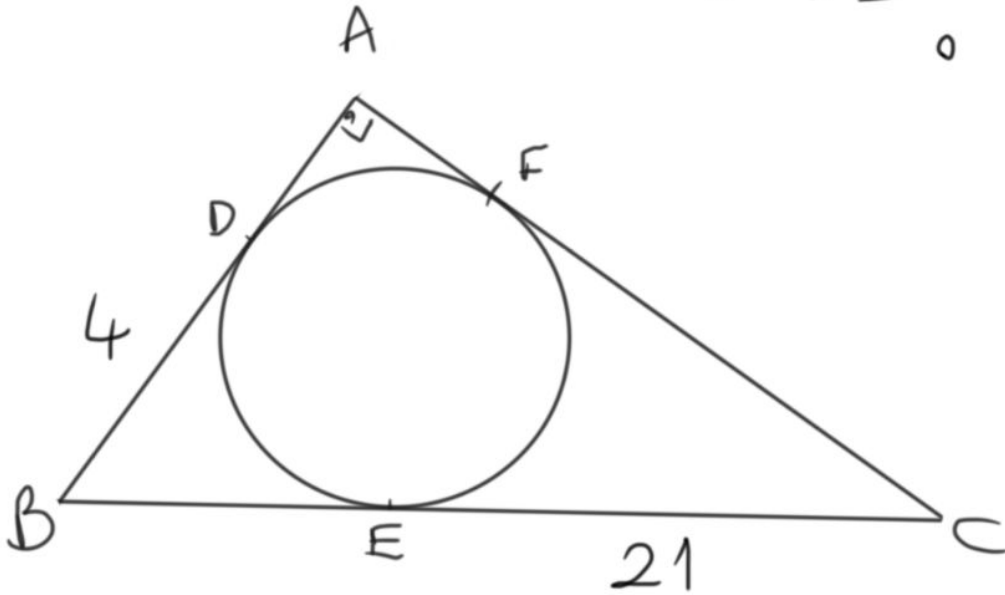
$|OC| = ?$

DİK ÜÇGENİN ALANI < --- > İÇ TEĞET ÇEMBER



ALİŞTIRMA # 47

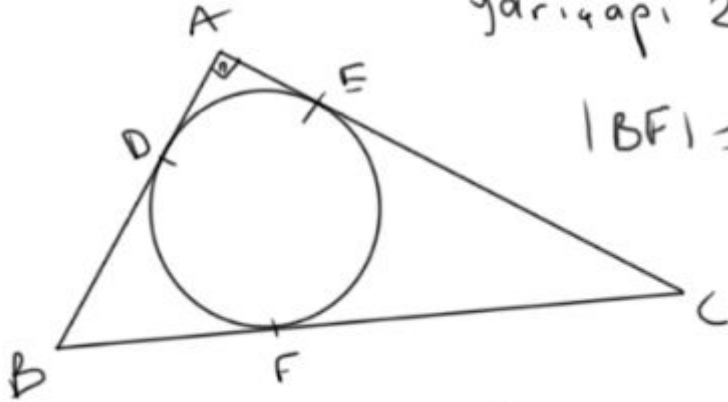
$$A(\widehat{ABC}) = ?$$



ALİŞTIRMA # 48

$\triangle ABC$ 'nin iç teget
çemberinin
yarıçapı 2'dir.

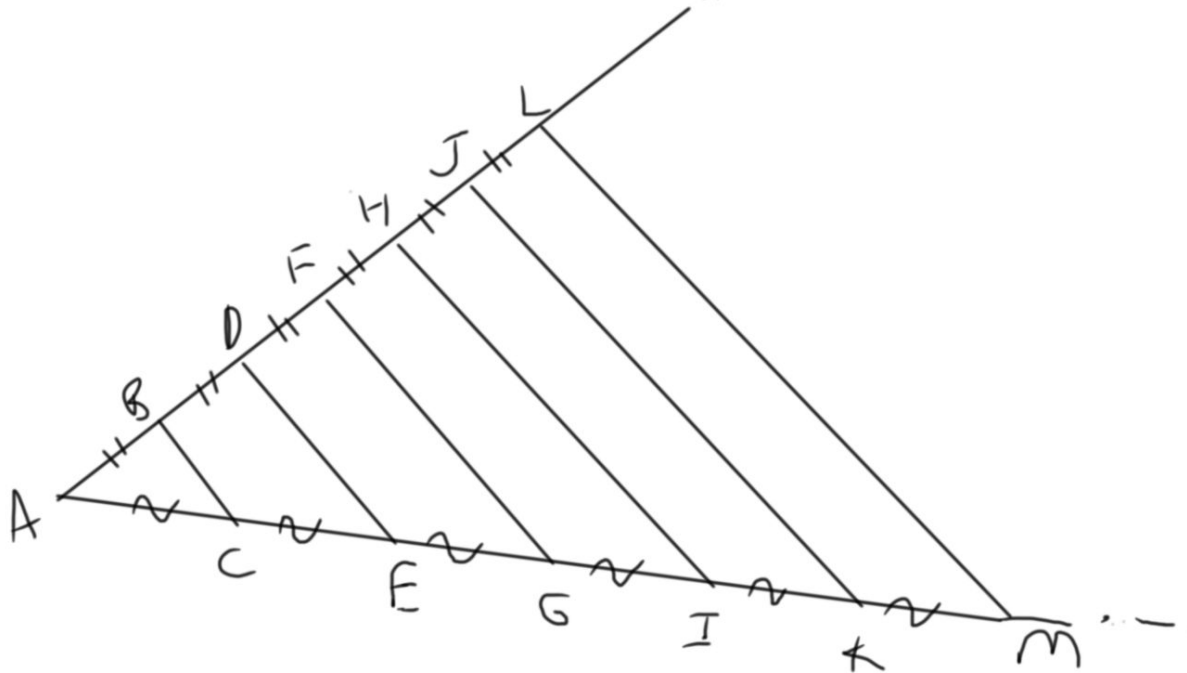
$$|BF| = 3$$



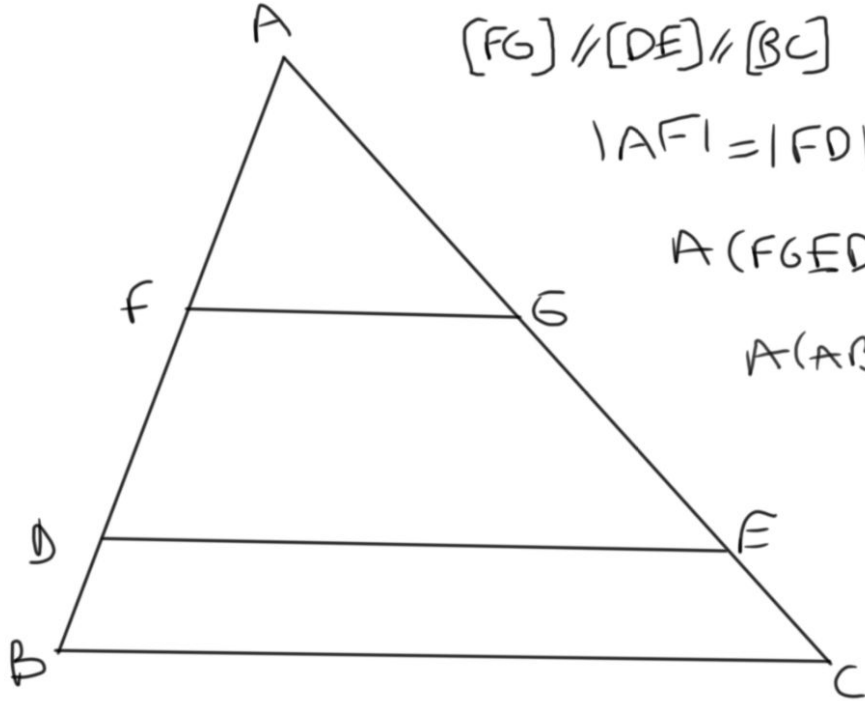
$$A(\triangle ABC) = ?$$

KİMİ BENZER ÜÇGENLERİN ALANLARI ORANI

$[BC] // [DE] // [FG] // [HI] // [JK] // \dots$



ALİŞTIRMA # 49



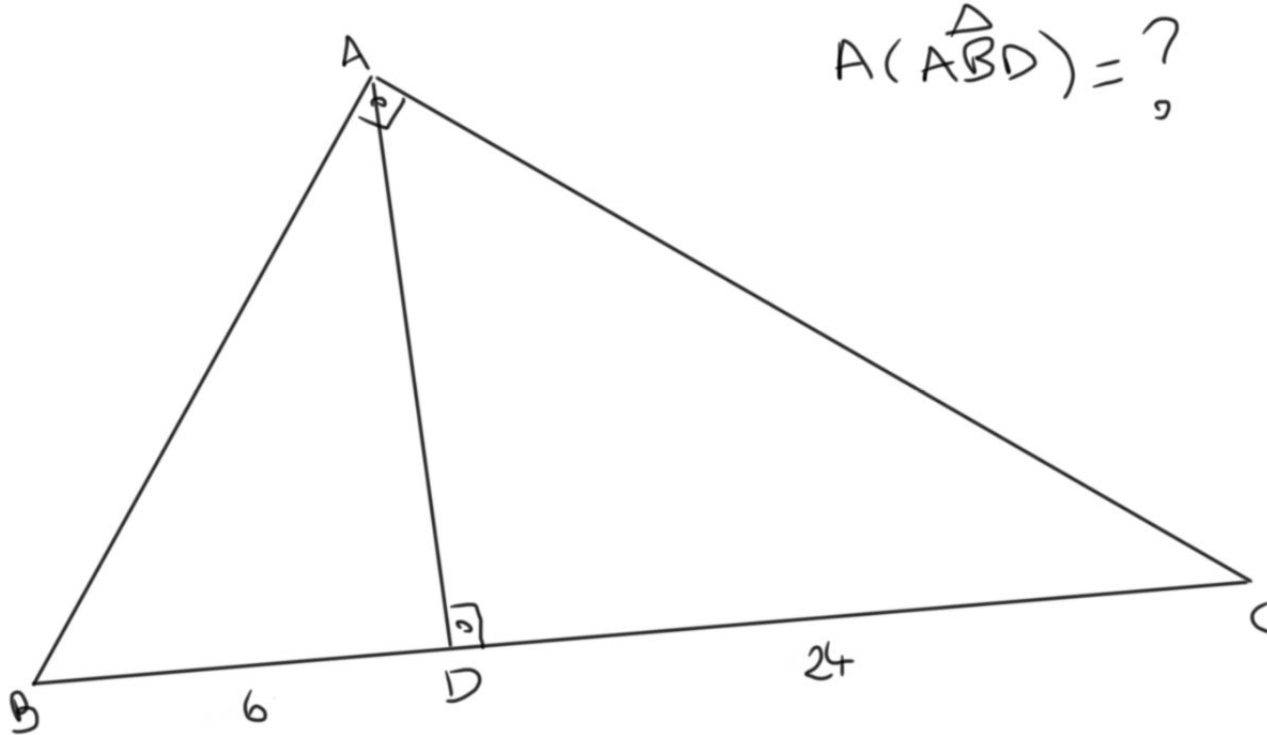
$$[FG] \parallel [DE] \parallel [BC]$$

$$|AF| = |FD| = 2|DB|$$

$$A(FGED) = 36$$

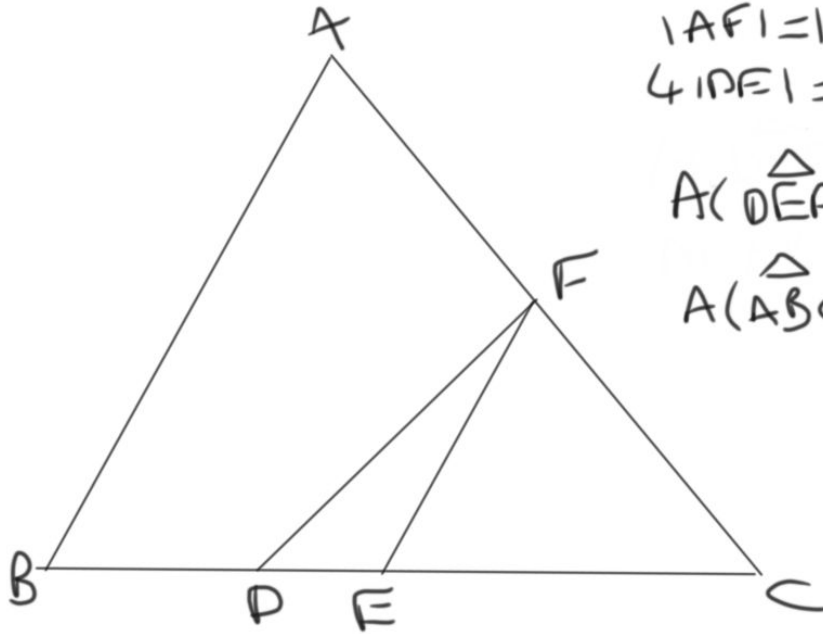
$$A(ABC) = ?$$

ÖDEV # 6



$$A(\triangle ABD) = ?$$

ÖDEV # 7



$$|AF| = |FC|$$
$$4|DE| = |BC|$$

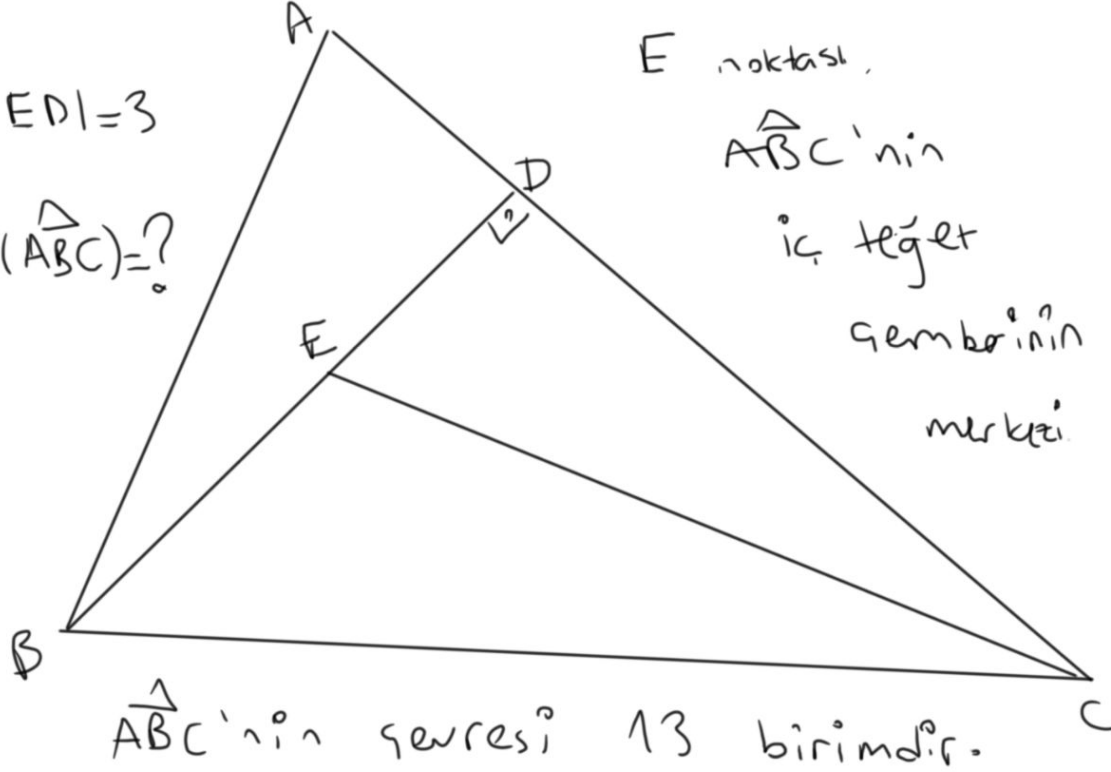
$$A(\triangle DEF) = 3$$

$$A(\triangle ABC) = ?$$

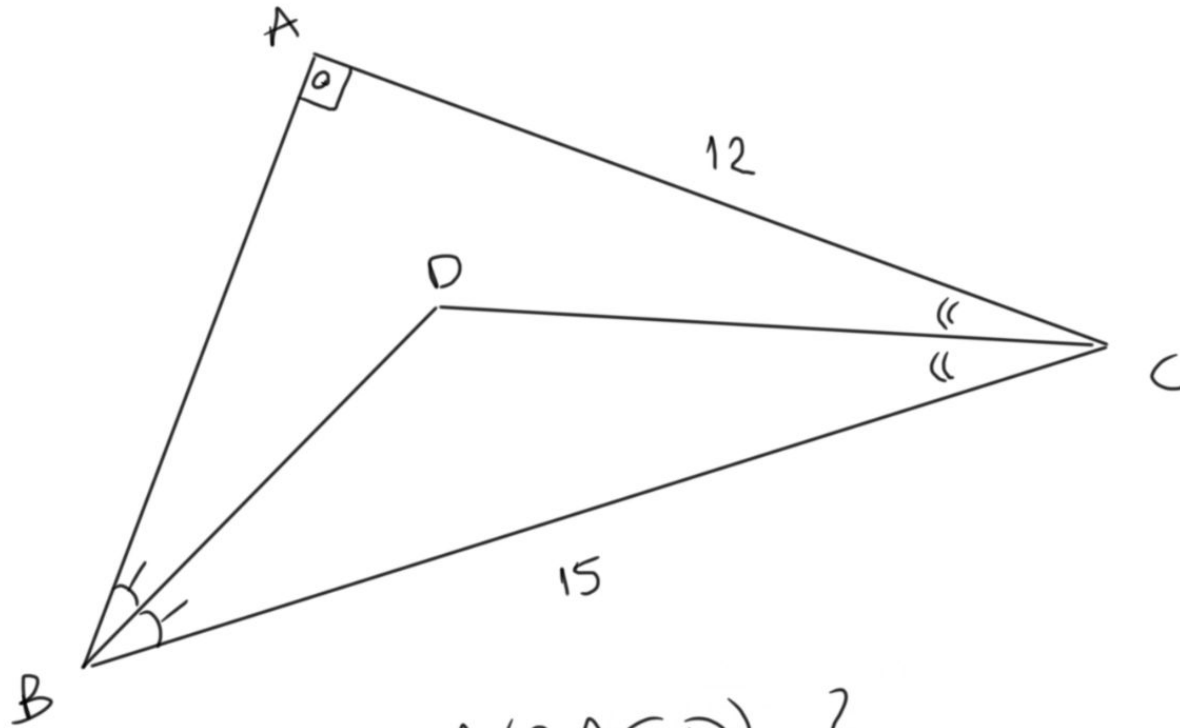
ÖDEV # 8

$$|ED| = 3$$

$$A(\triangle ABC) = ?$$

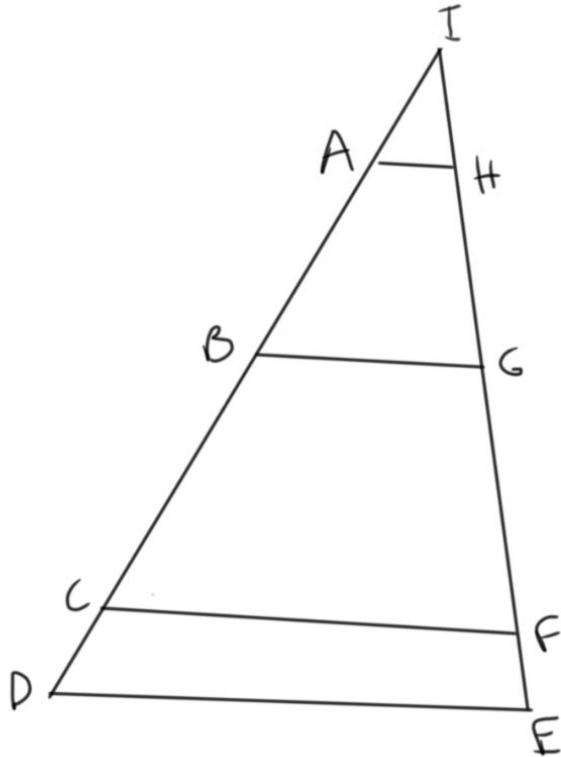


ÖDEV # 9



$$A(BACD) = ?$$

ÖDEV # 10



$$[AH] \parallel [BG] \parallel [CF] \parallel [DE]$$

$$|AI| = 4$$

$$|BA| = 6$$

$$|BC| = 8$$

$$|DC| = 2$$

$$A(CDEF) = 19$$

$$A(AHGB) = ?$$

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