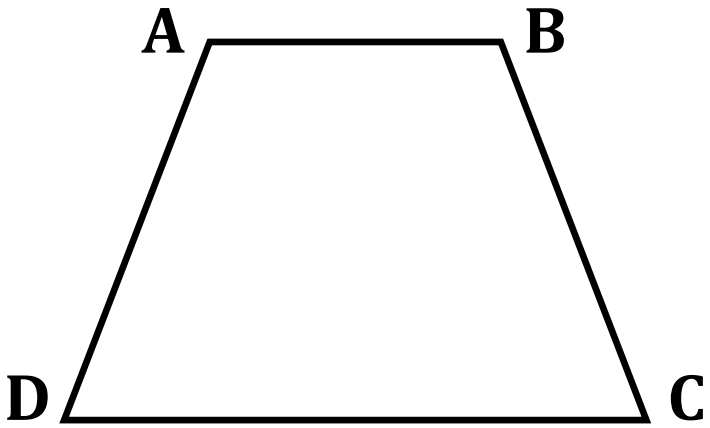
YAMUKTA AÇI ve UZUNLUK

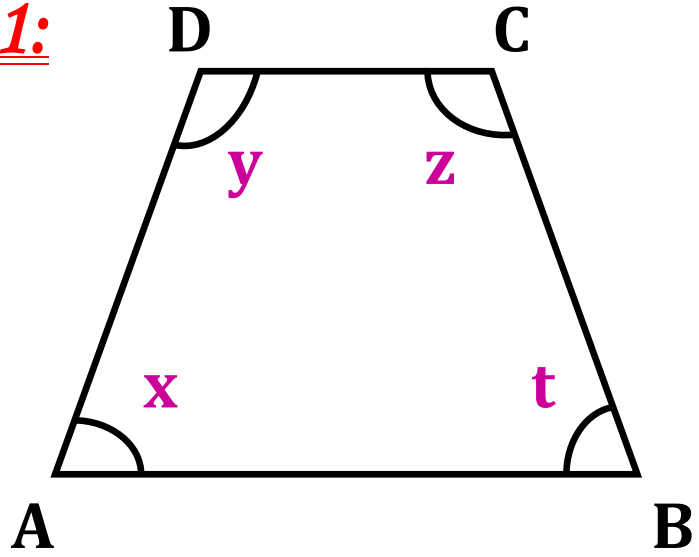
Tanım :



[AB] // [DC] olsun.

Sadece iki kenarı birbirine paralel olan dörtgene " yamuk " adı verilir.

Kural 1:

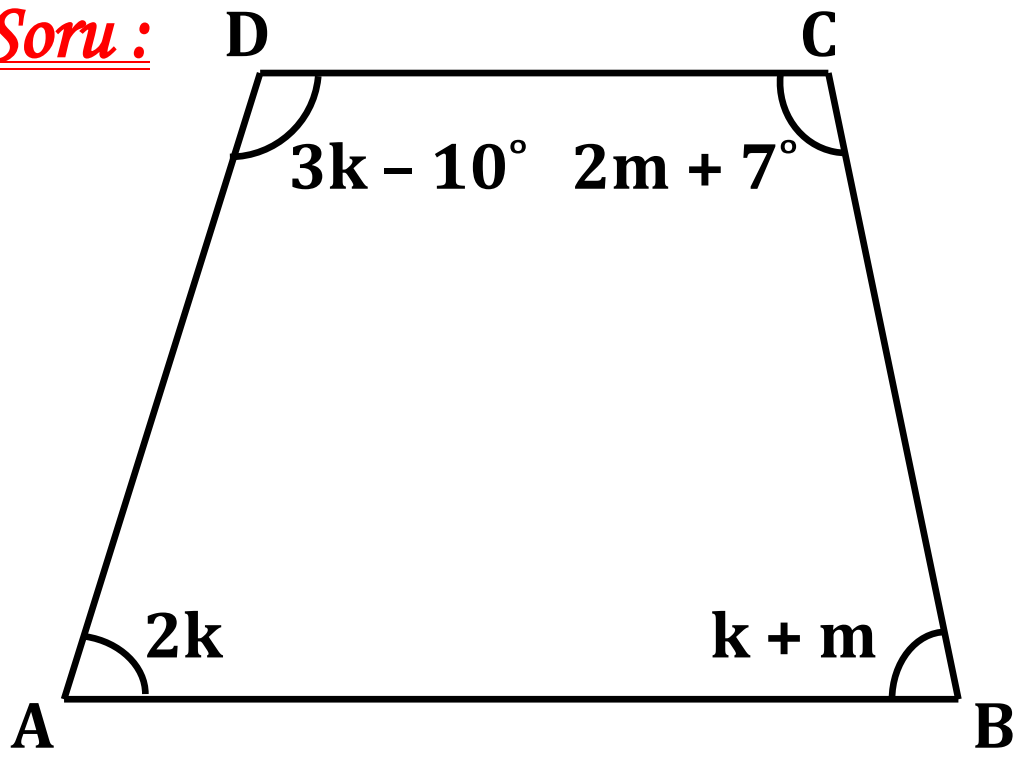


ABCD yamuğunda , karşılıklı açıların ölçüleri toplamı 180° dir.

x + y = 180° ve

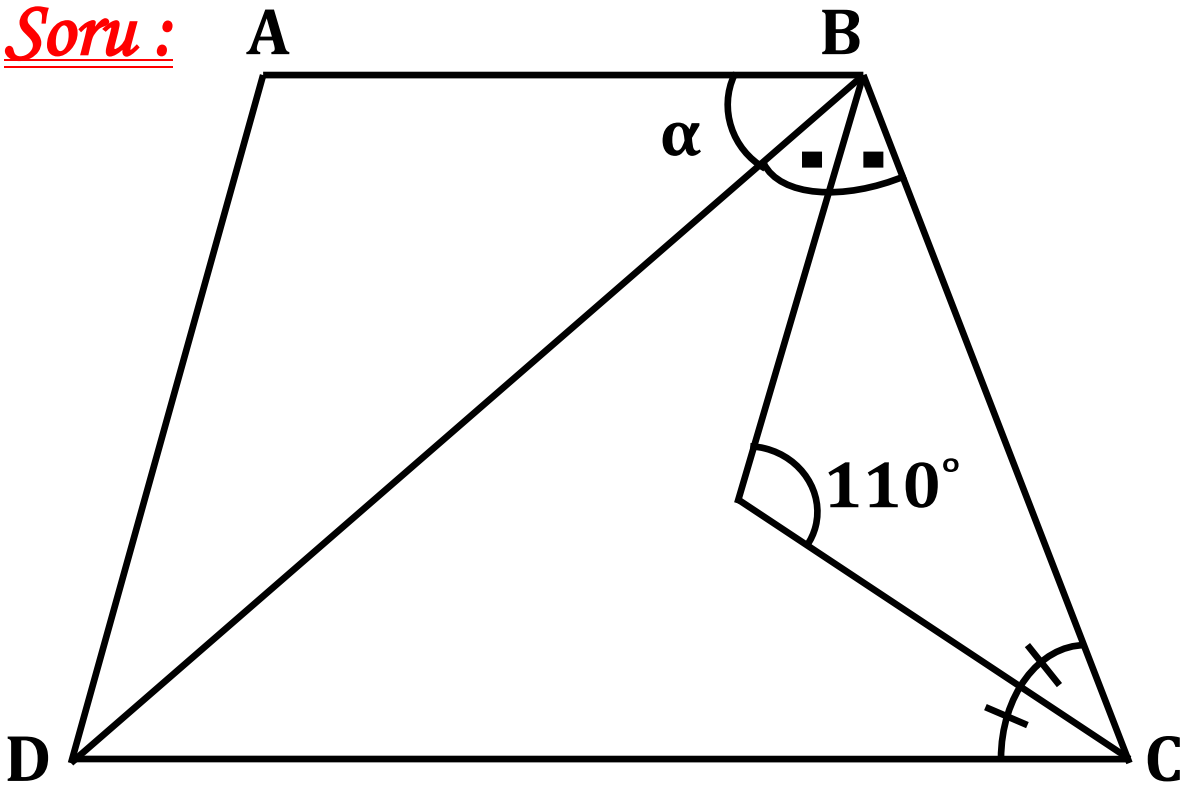
t + z = 180° olarak alınır.

Soru :



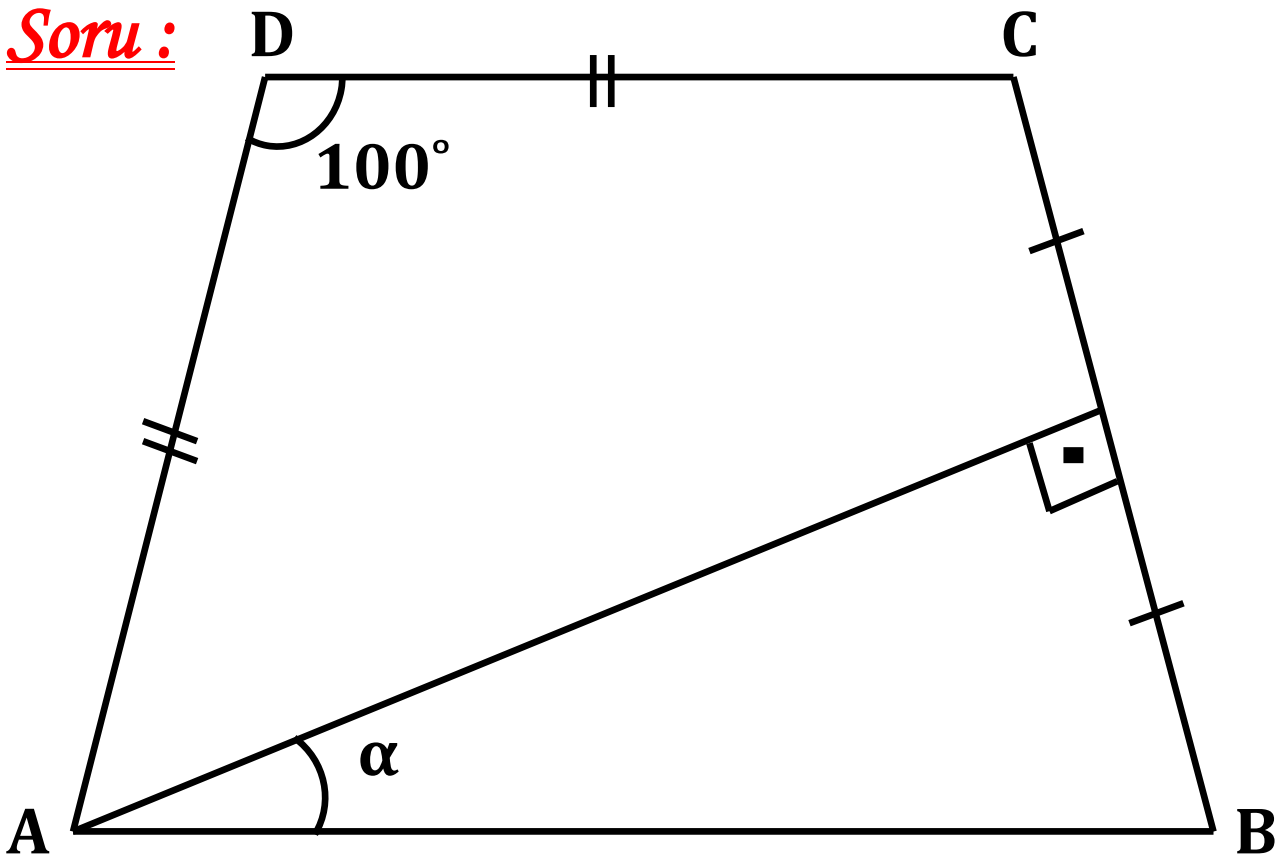
ABCD yamuk ise m = ?

Soru :



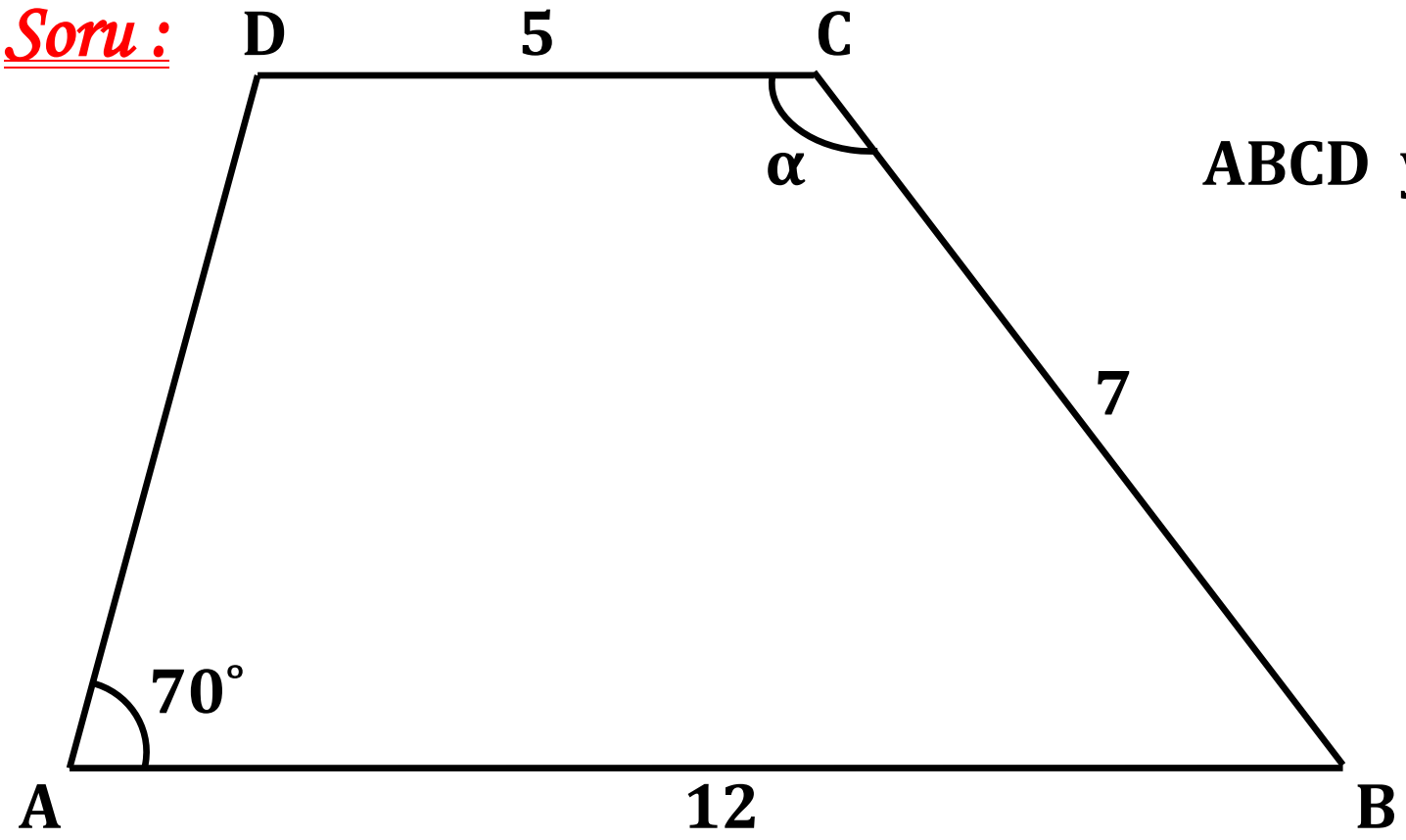
ABCD yamuğunda α = ?

Soru :



ABCD yamuğunda α = ?

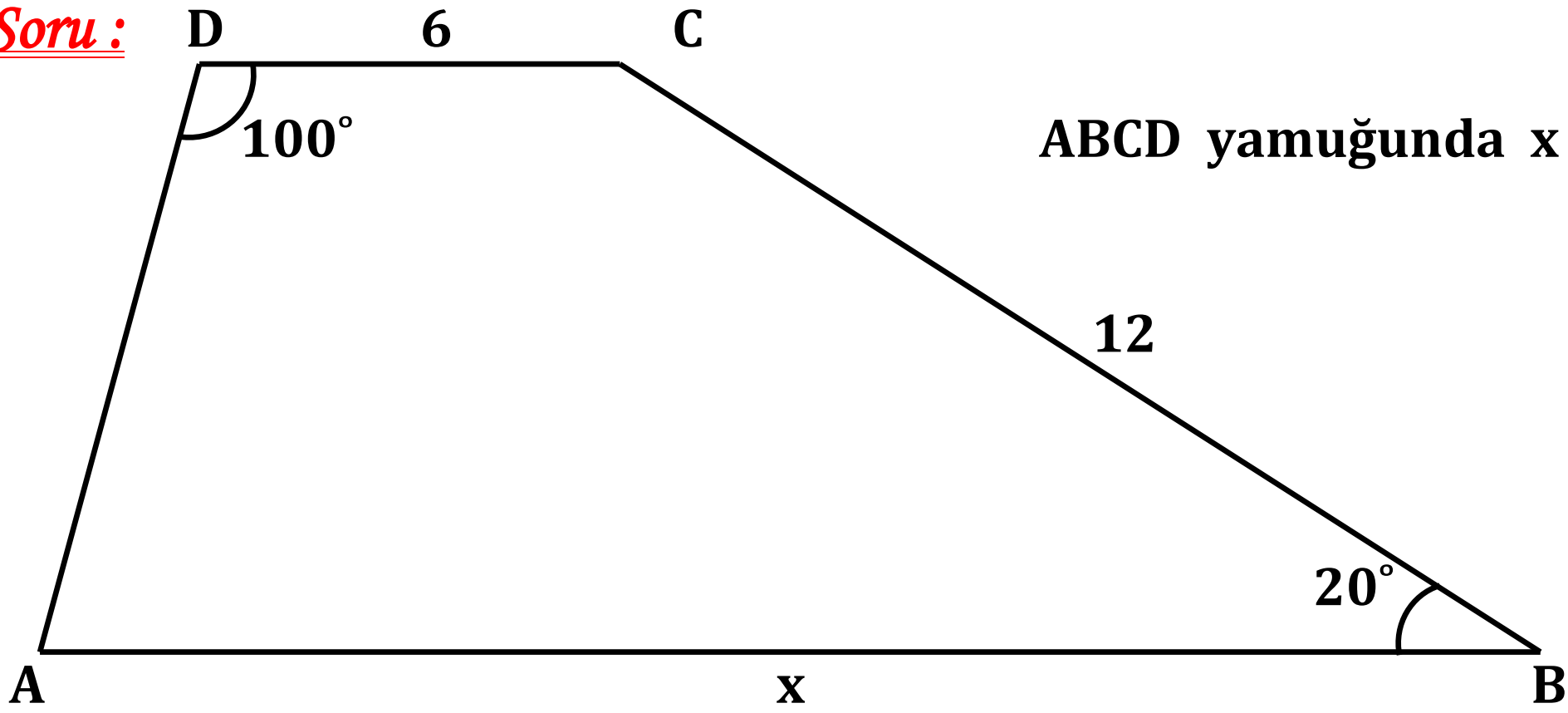
Soru :



ABCD yamuğunda α = ?

(Not : Bu tarz sorularda üstteki noktalardan birinden alt tabana , yan tabanlardan birine paralel olacak şekilde bir doğru parçası indirilir. İkizkenar üçgen , yöndeş – ters açılardan sonuca gidilir.)

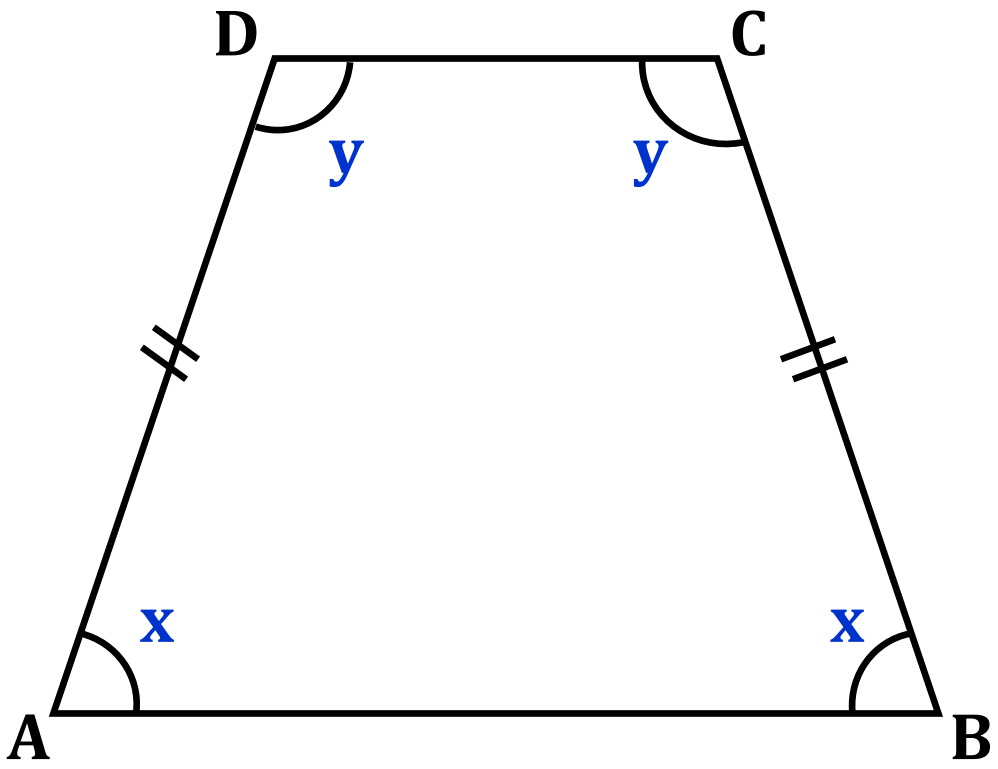
Soru :



ABCD yamuğunda x = ?

Kural 2 : **Yamukta paralel olmayan iki kenar birbirine eşitse ,**

bu yamuğa " ikizkenar yamuk " adı verilir.



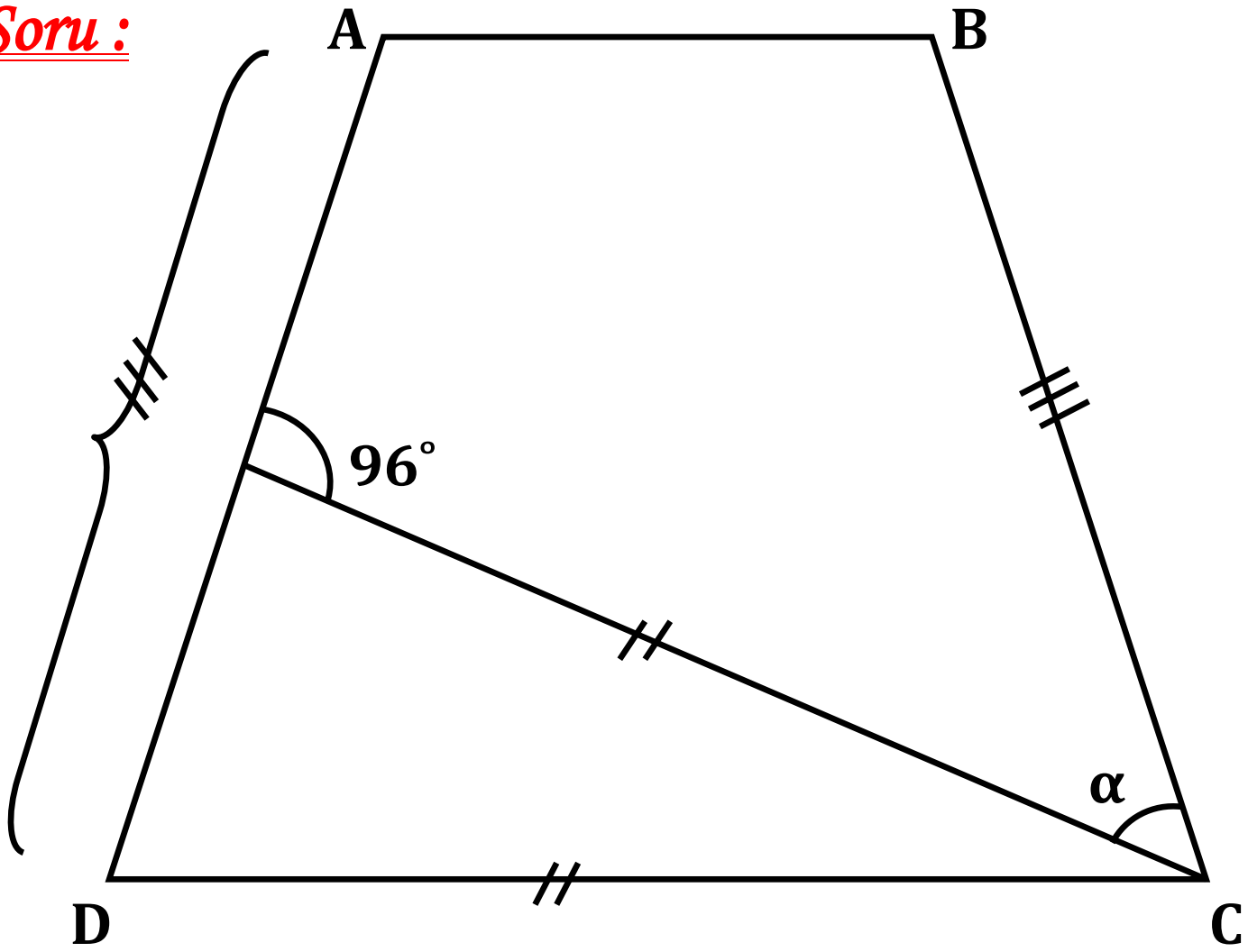
İkizkenar yamukta ;

1) Alt taban açıları birbirine eşittir.

Dolayısıyla,

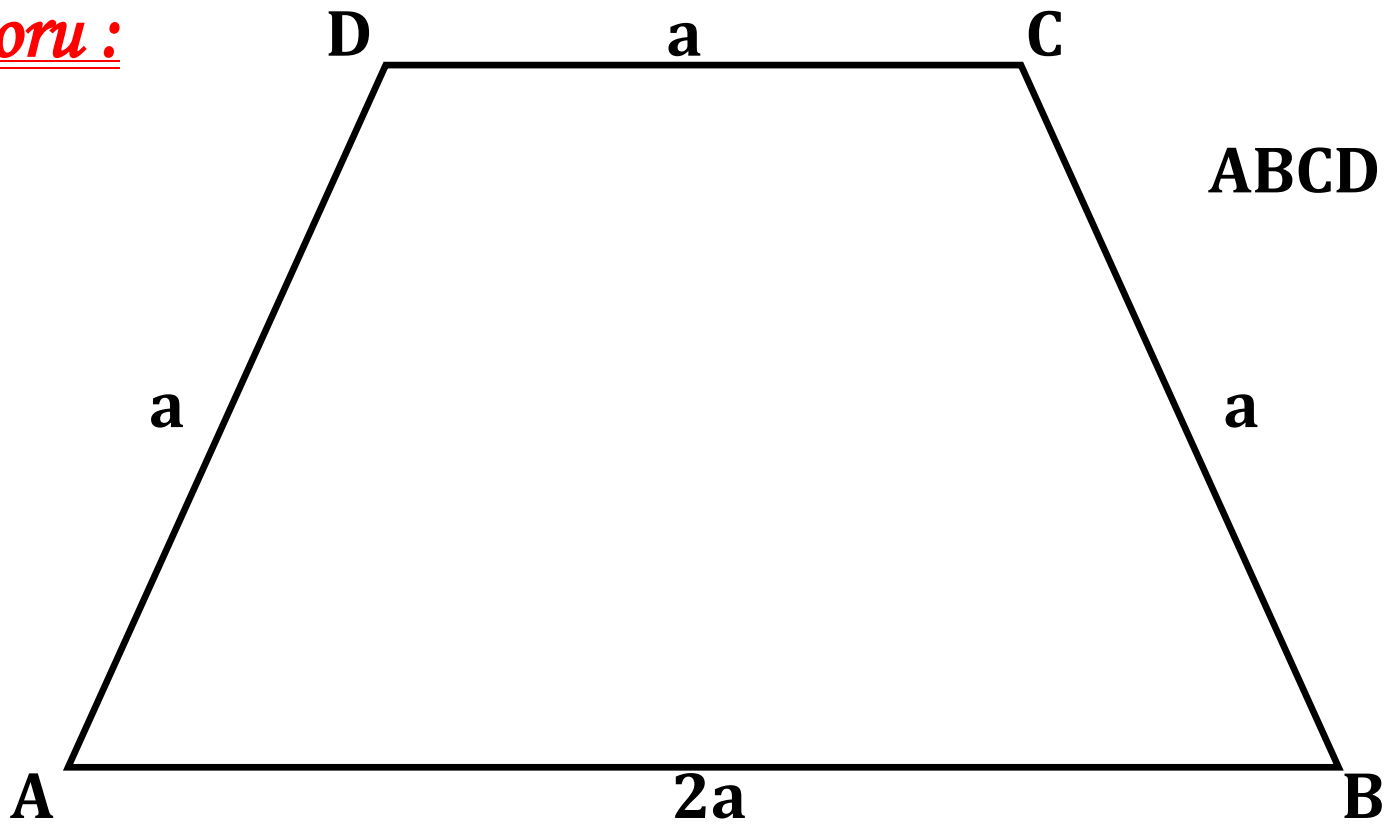
2) Üst taban açıları da birbirine eşittir.

Soru :



ABCD ikizkenar yamuğunda α = ?

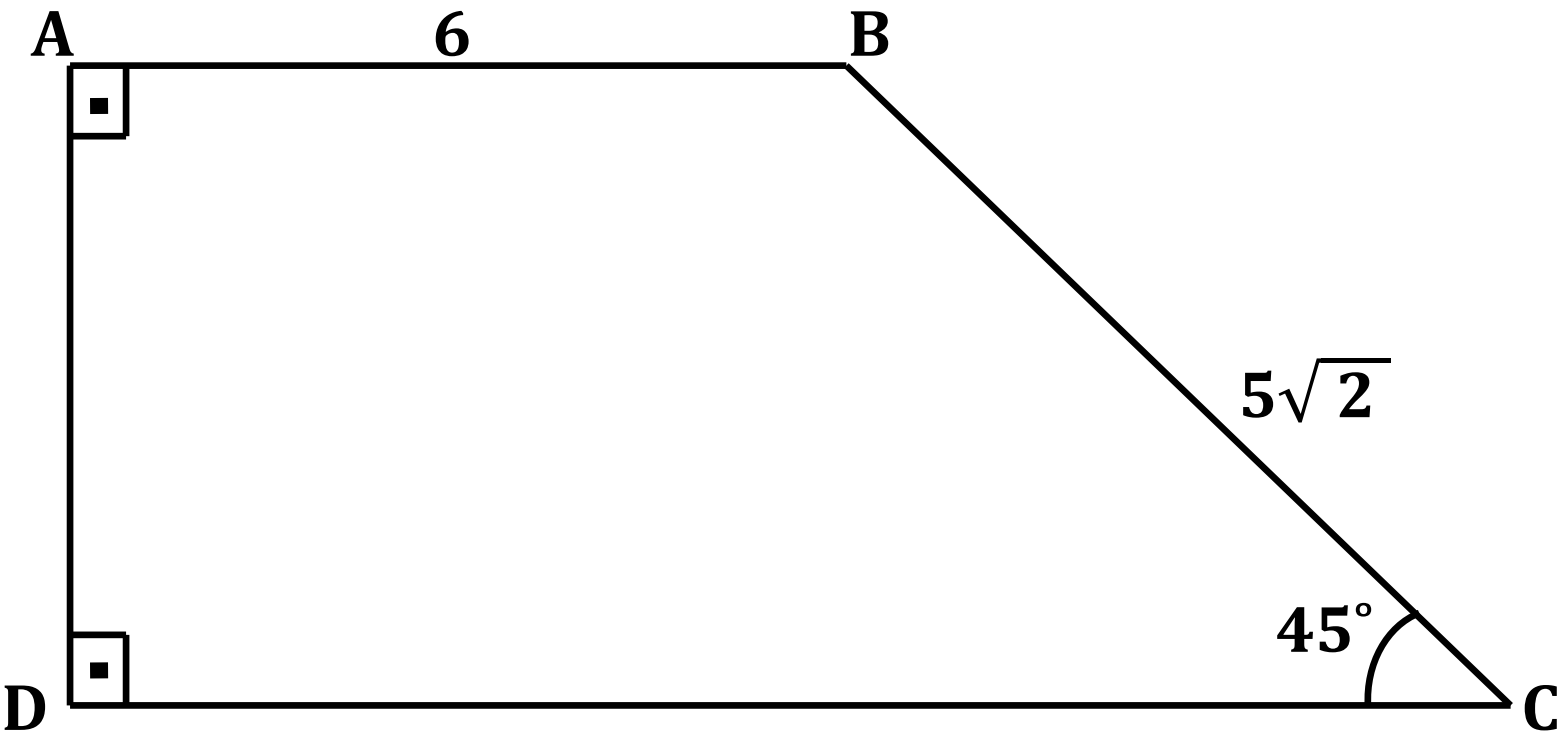
Soru :



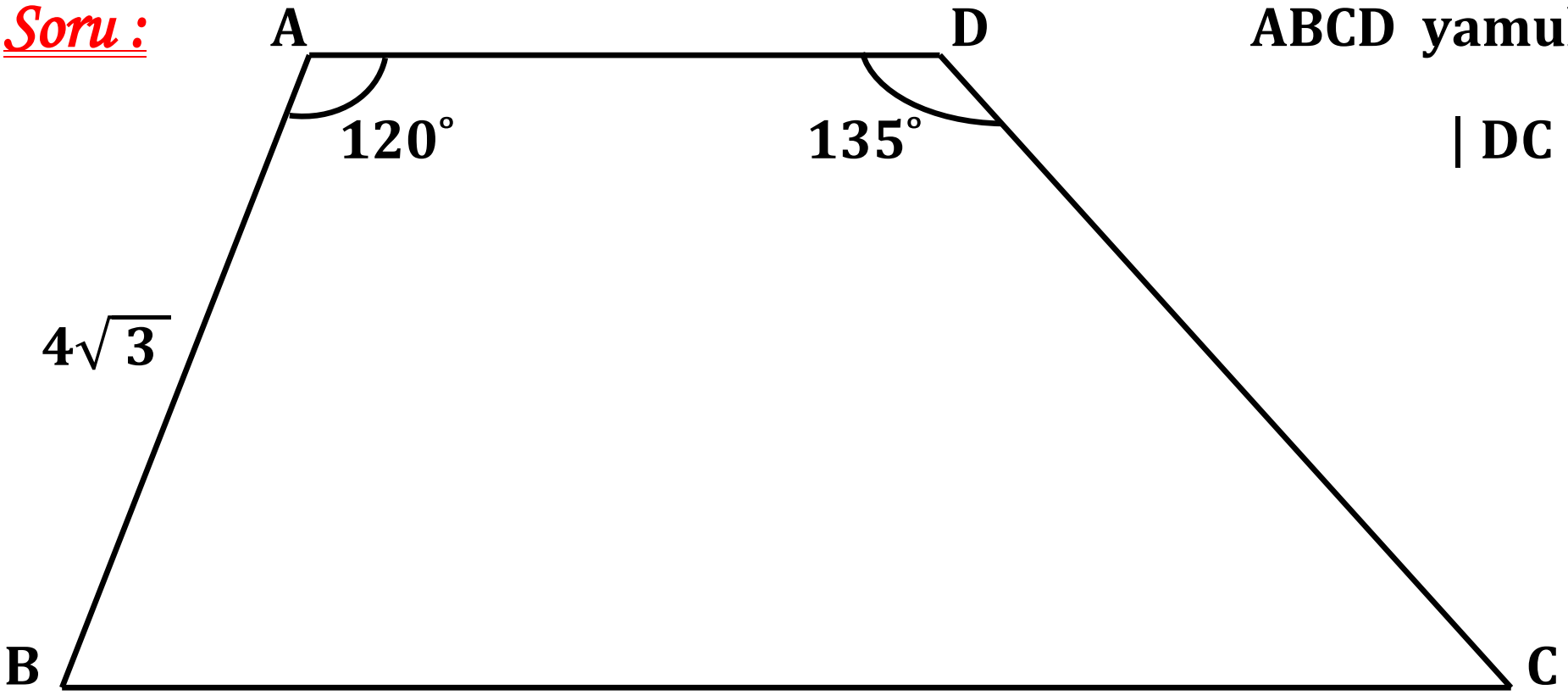
ABCD yamuksa $m(\widehat{C}) = ?$

Not : **Üçgen konusunda öğrendiğimiz kurallar uygulanarak çözüme ulaşılır.**

Soru : **ABCD dik yamuğunda $|AD| + |DC| = ?$**



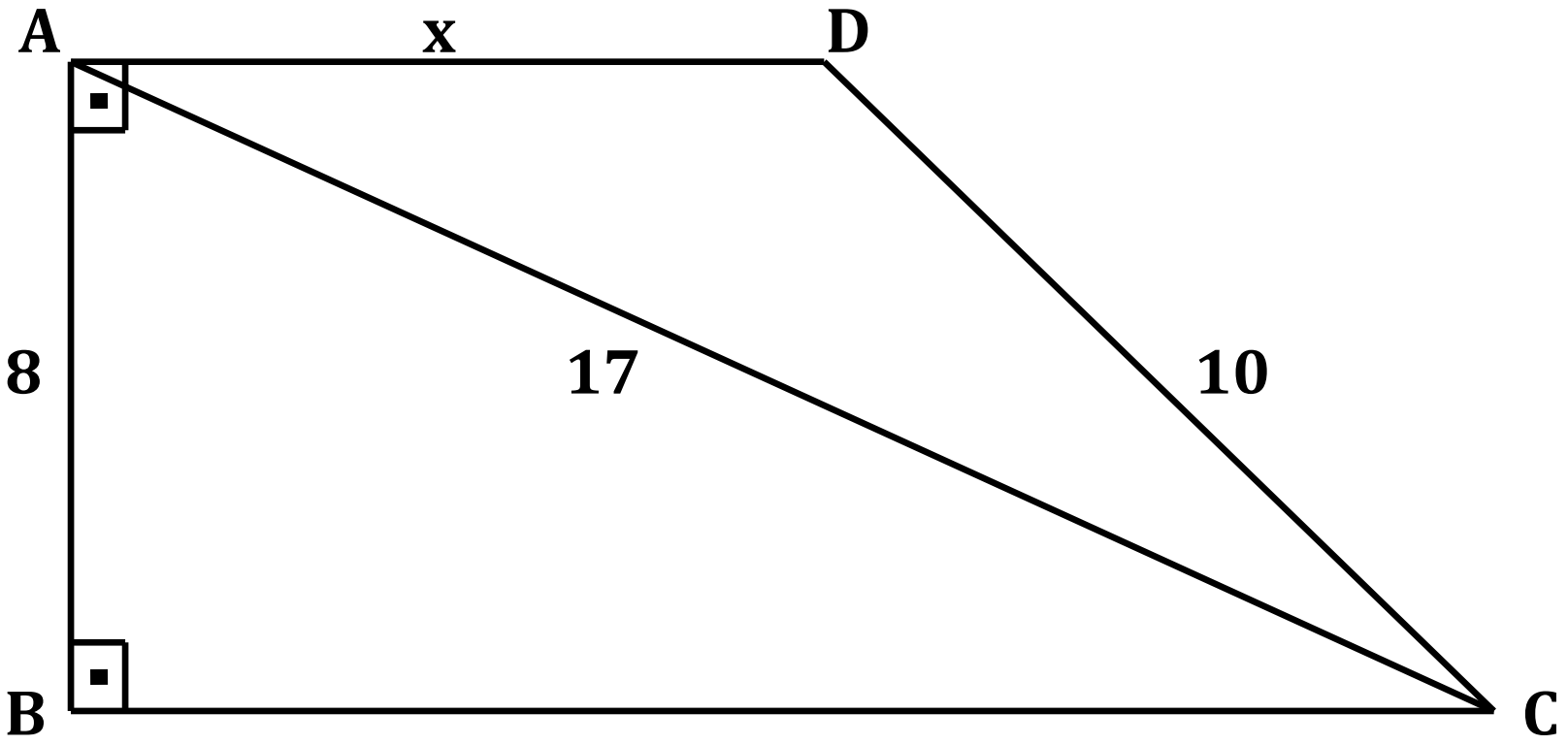
Soru :



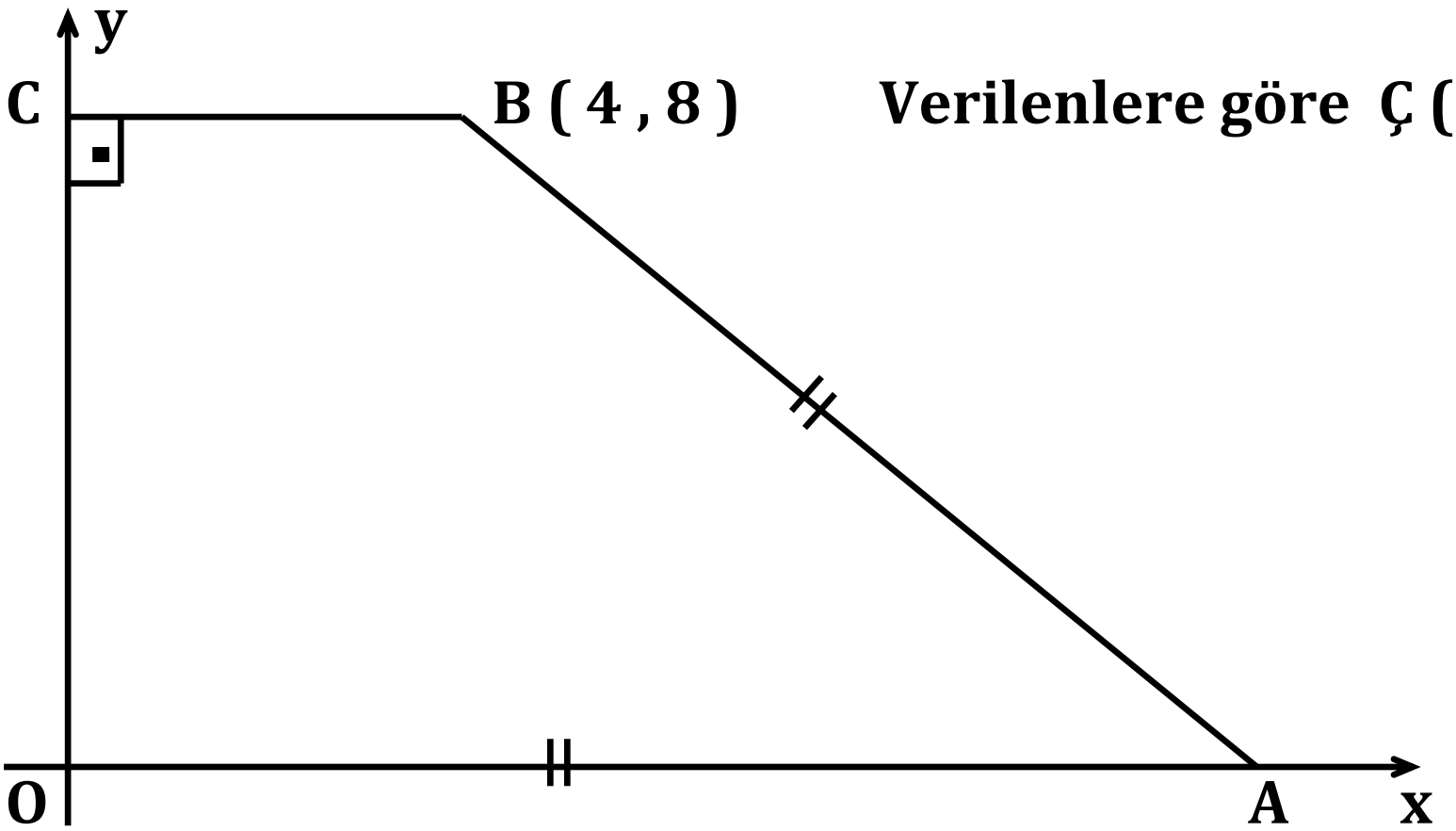
ABCD yamuk ise

| DC | = ?

Soru : **ABCD dik yamuğunda x = ?**



Soru :

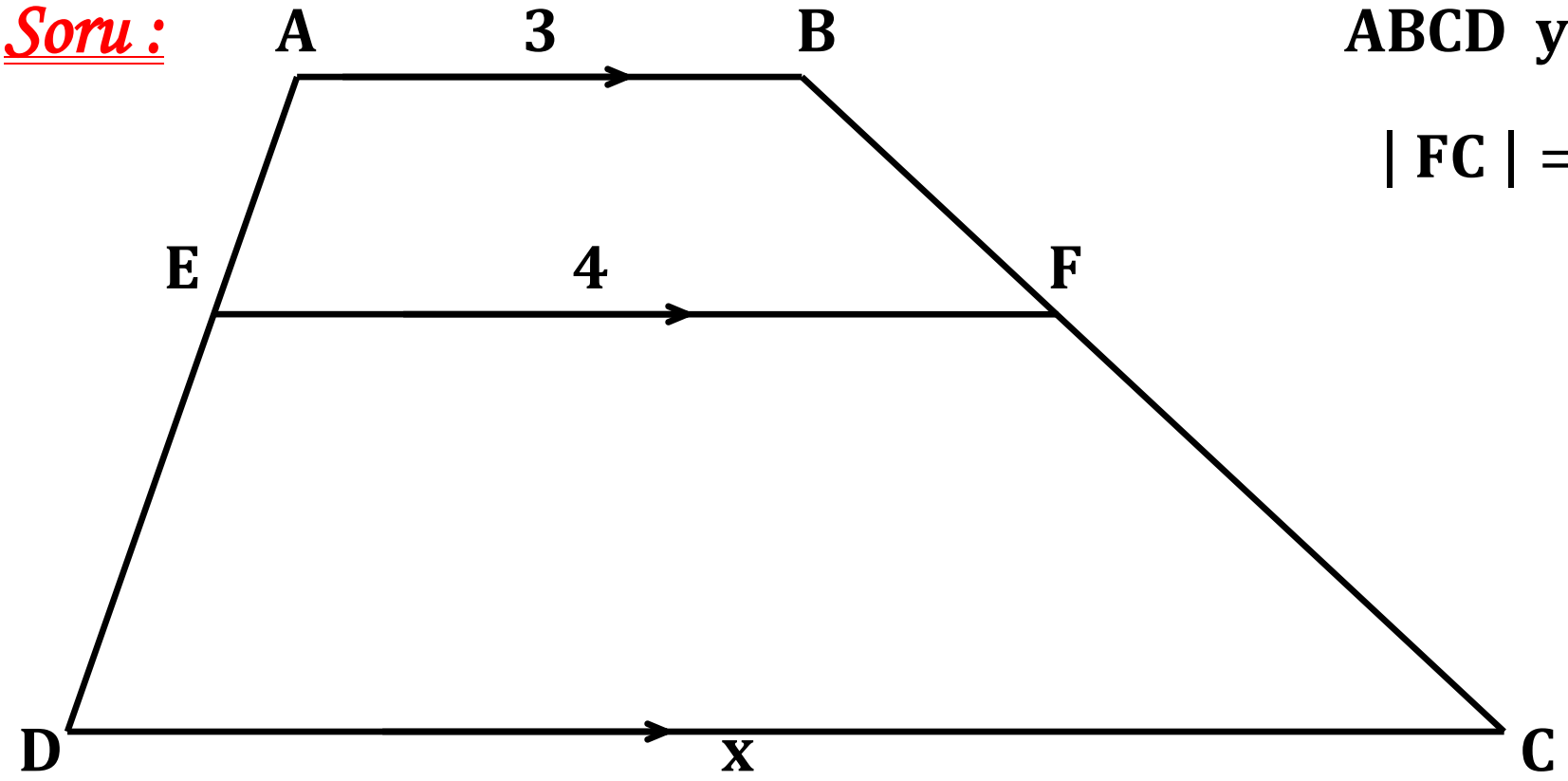


Verilenlere göre Ç (ABCD) = ?

Soru : ABCD yamuk ve

| FC | = 2 . | BF | ise

x = ?



Not : A 'dan veya B 'den alt tabana , yan tabanlardan birine paralel olacak şekilde doğru parçası indirilir. Benzerlik – temel orantı kullanılarak sonuca gidilir.

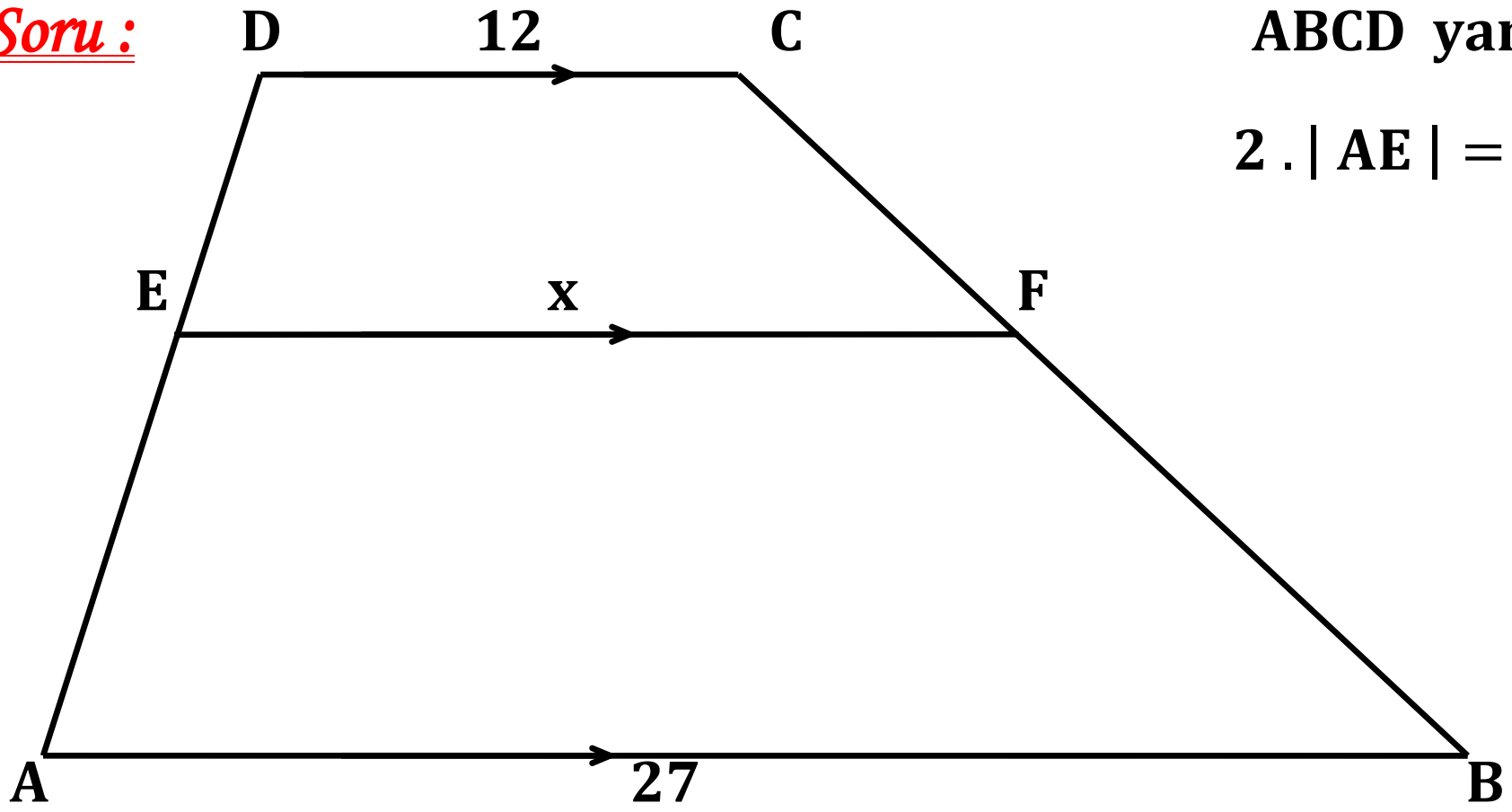
Kısayol : Yan tabanlar arasındaki ilişki ve bilinen iki uzunluk arasındaki orantıya göre istenen bulunur.

Soru :

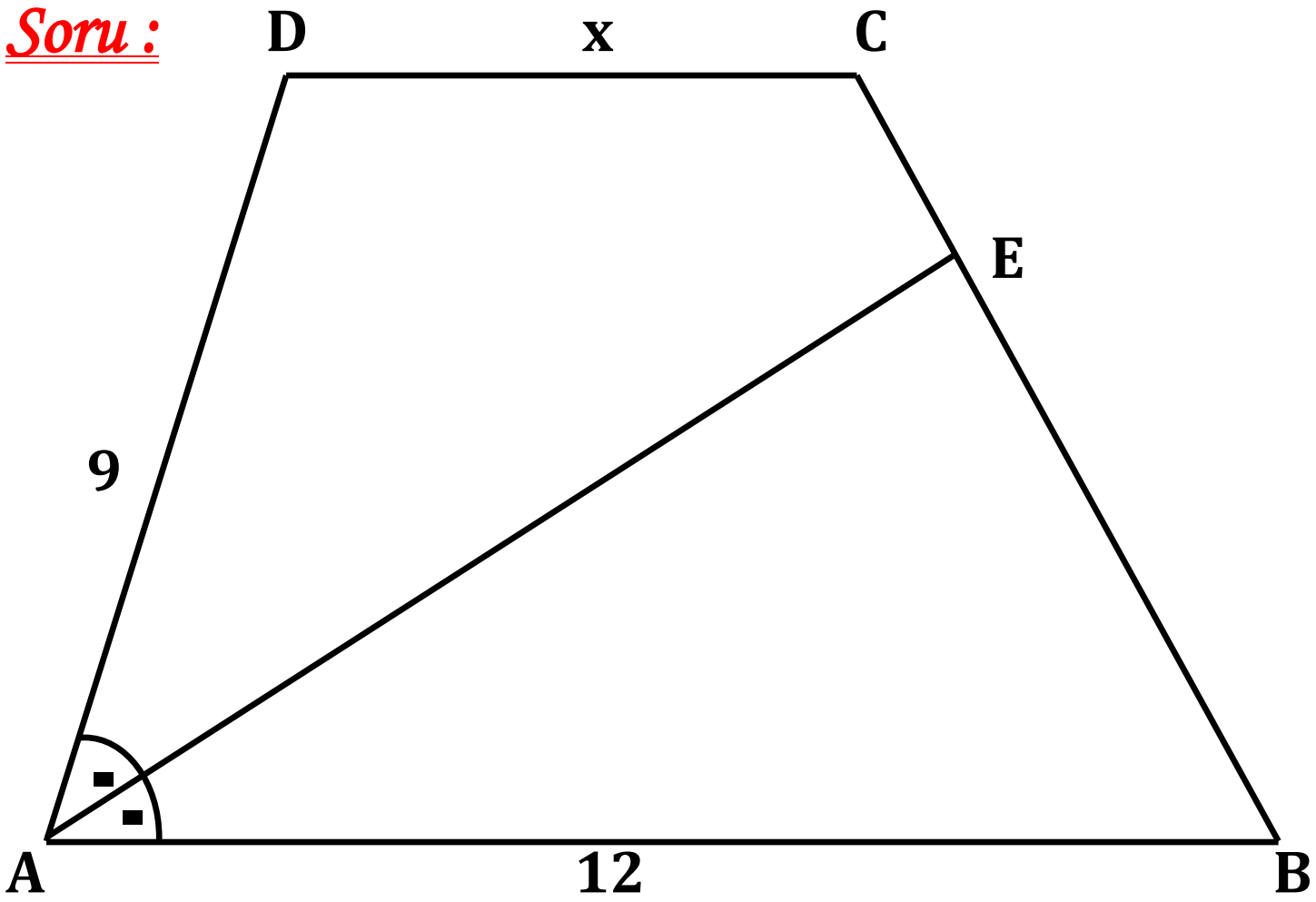
ABCD yamuk ve

2 . | AE | = 3 . | ED | ise

x = ?



Soru :



ABCD yamuk ve

| EB | = 3 . | EC | ise

x = ?

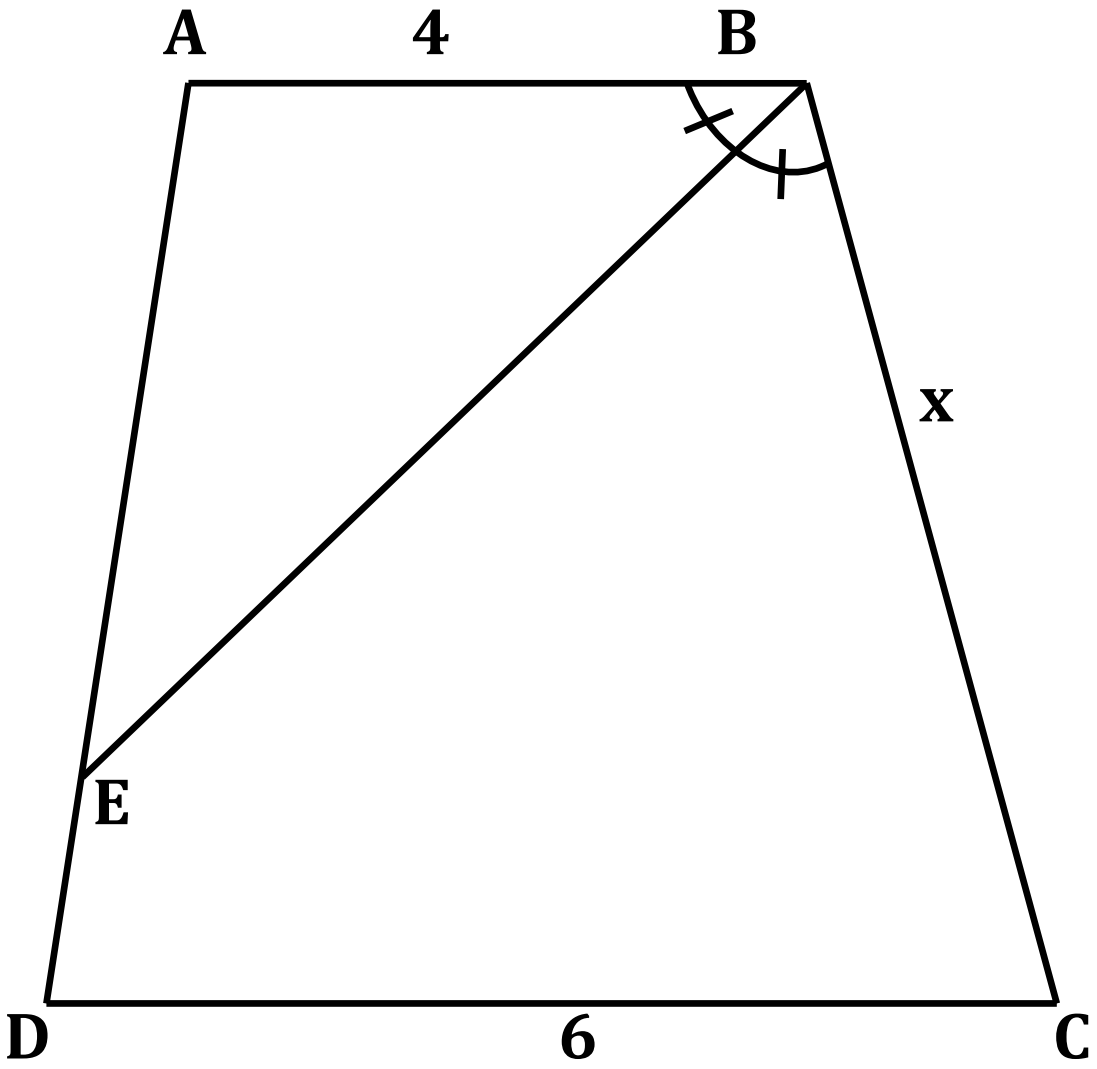
Not : **E ile C 'yi uzat ve birleştir. Kelebek ve Z kuralından istenen sonuca ulaşılır.**

Soru :

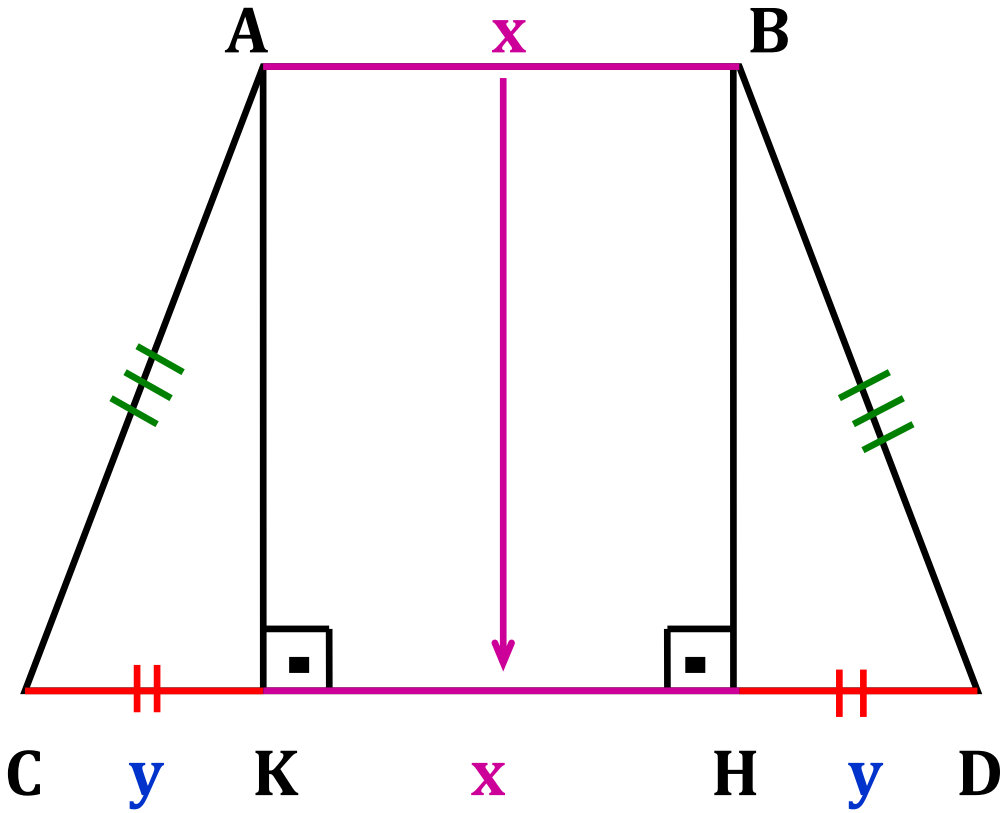
ABCD yamuk ve

| AD | = 5 . | ED | ise

x = ?

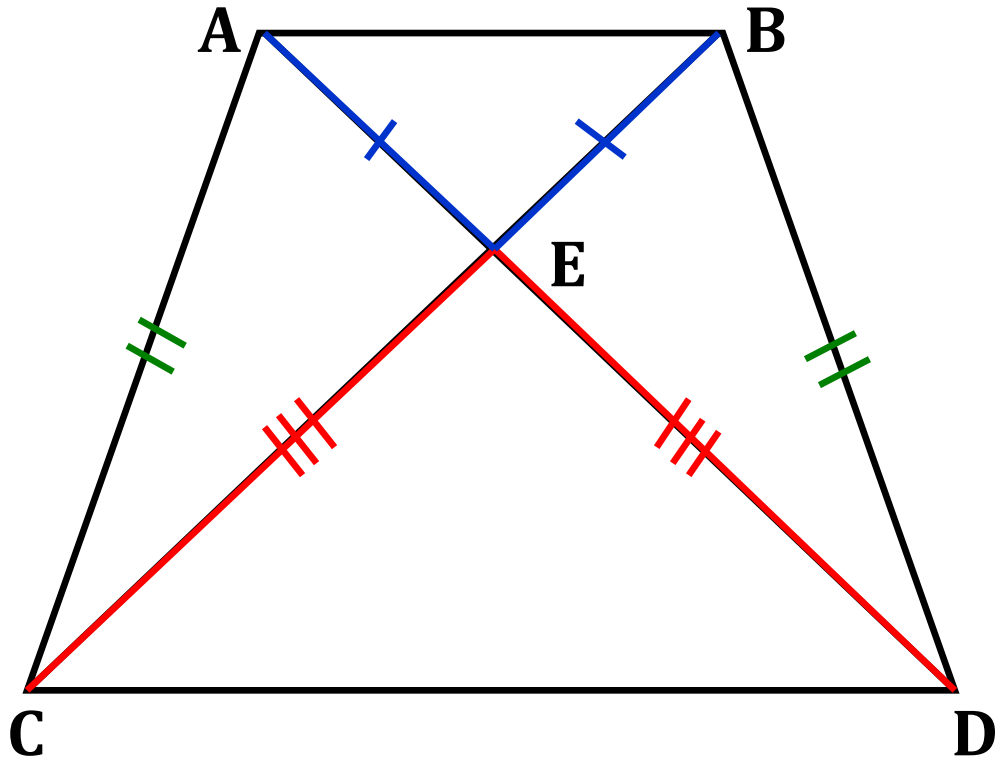


Kural 3 : A)



İkizkenar yamukta iki üst köşe noktasından diklik indirildiğinde, alt tabandaki iki yan parça birbirine eşit olur.

B)



İkizkenar yamukta ;

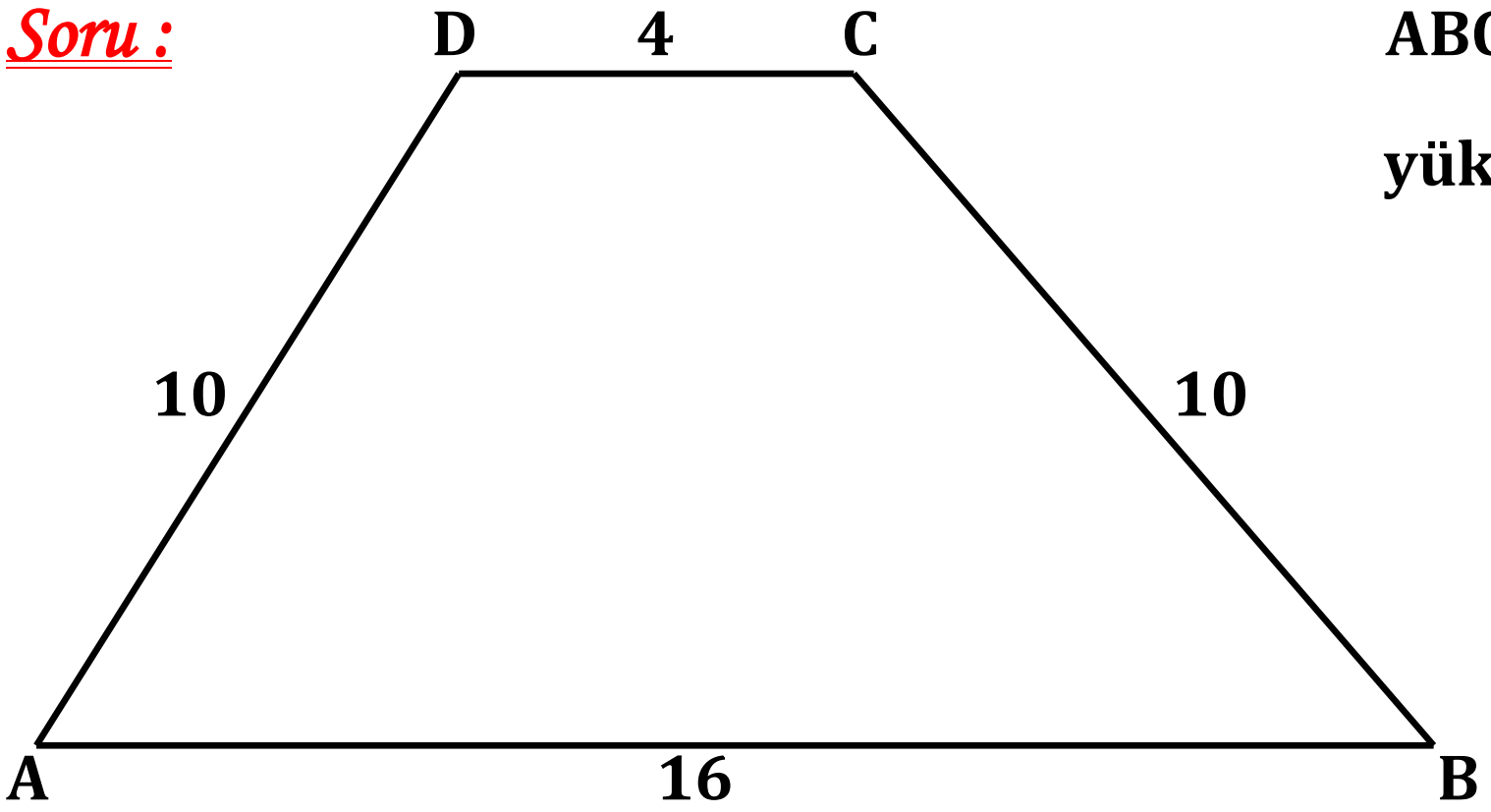
| AE | = | EB | , | DE | = | EC |

olup , ikizkenar yamukta köşegenler birbirine eşittir.

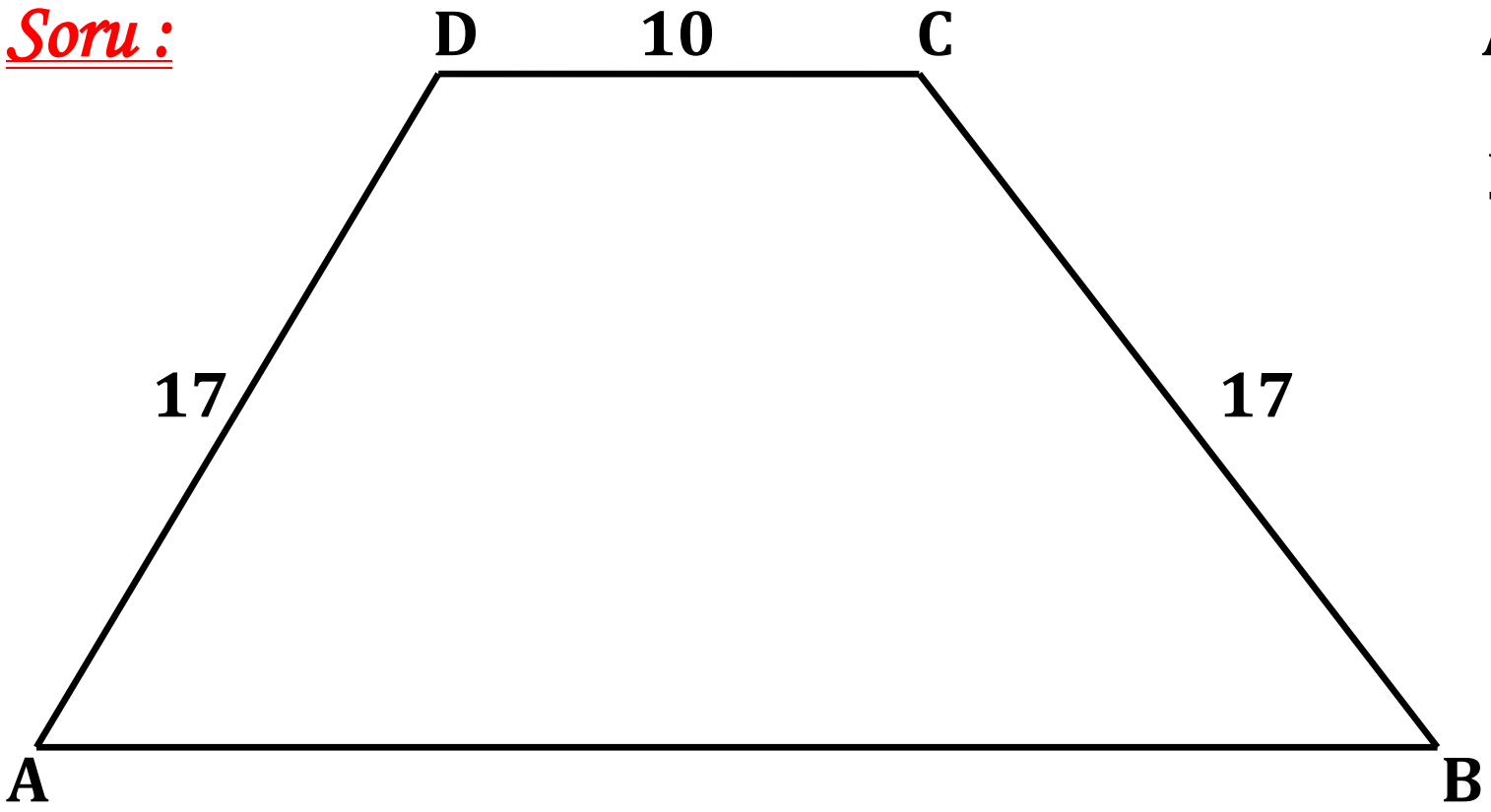
Yani | AD | = | BC | 'dir.

Soru :

ABCD yamuğunun yüksekliğini bulunuz.

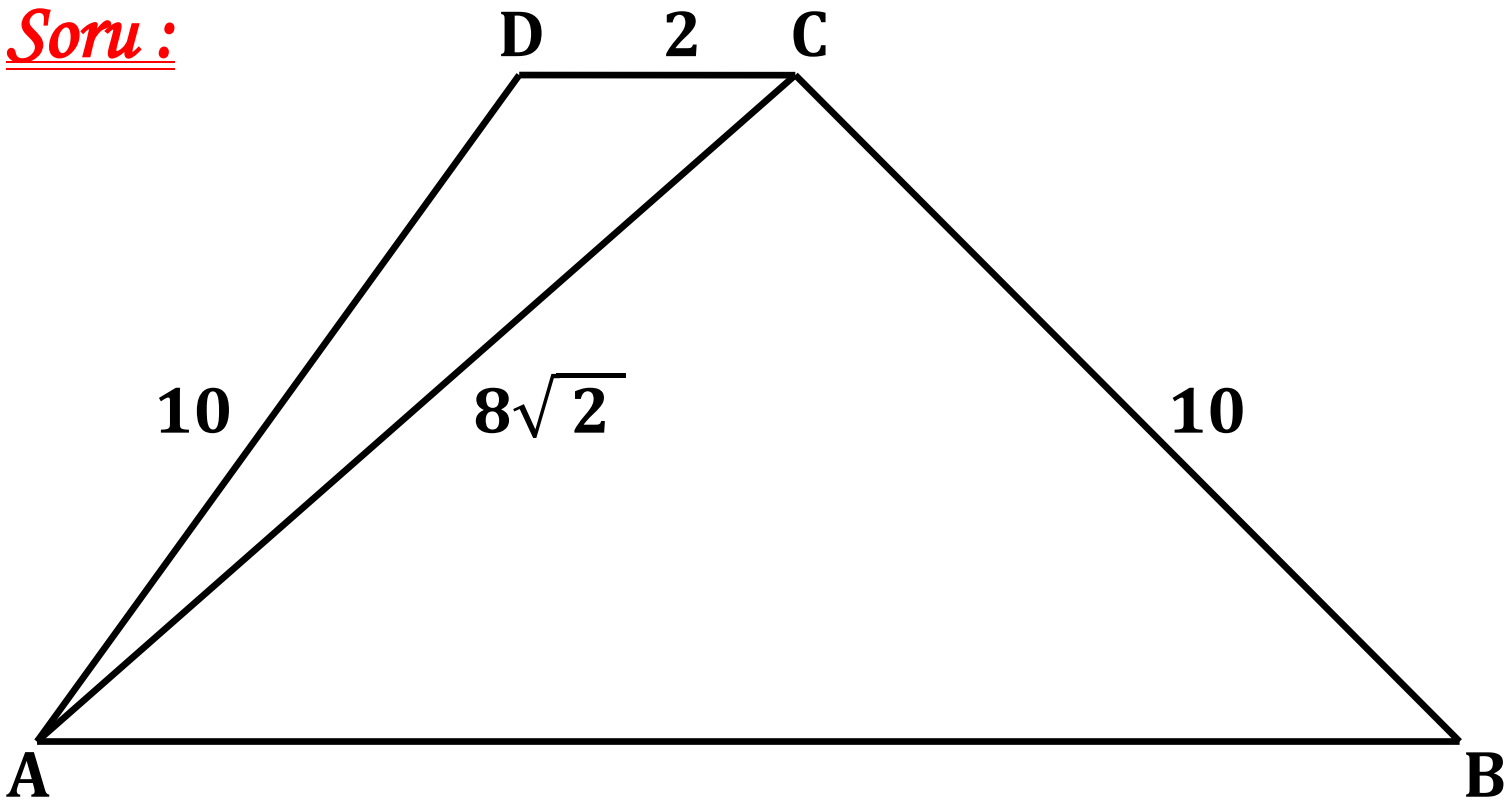


Soru :



ABCD yamuğunun yüksekliğini 15 br ise Ç (ABCD) = ?

Soru :

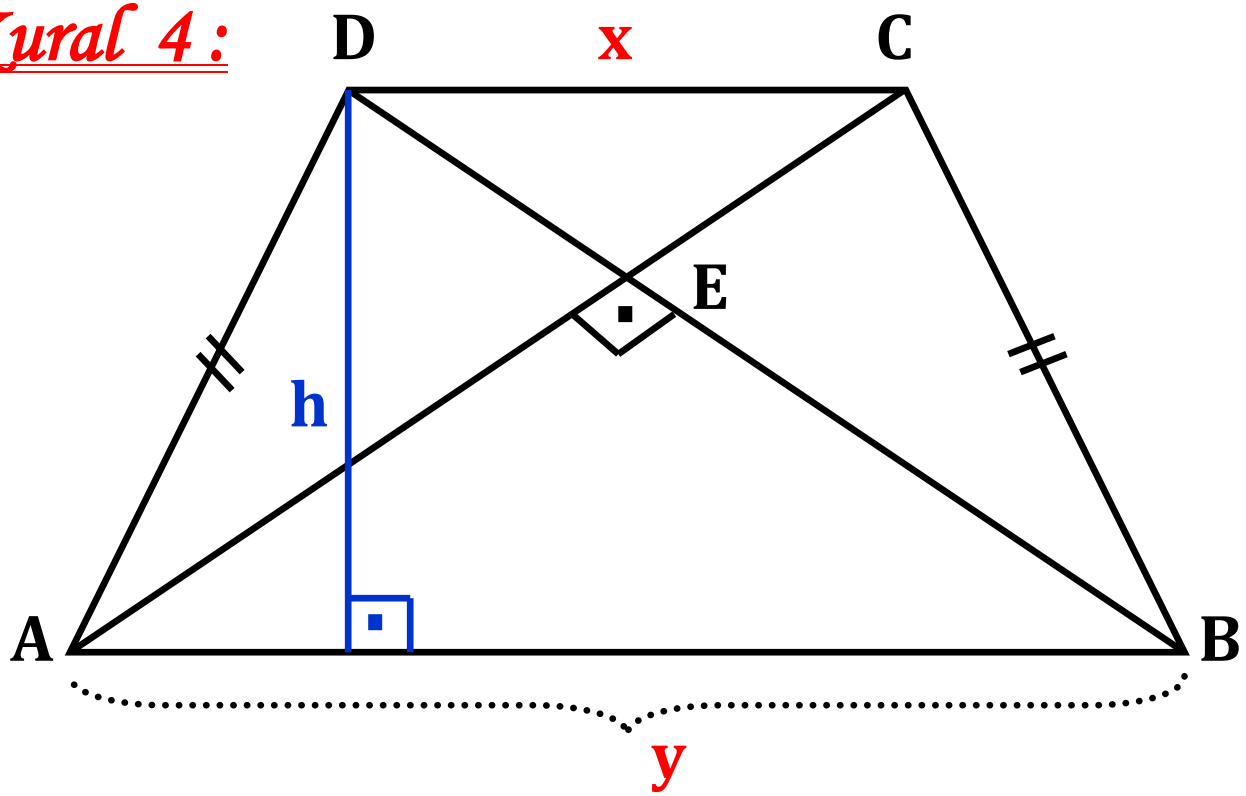


ABCD yamuk ise

| AB | = ?

Not : **Üst iki köşe noktasından diklik indirilir. İki farklı dik üçgenden Pisagor bağıntısı uygulanarak istenen bulunur.**

Kural 4 :

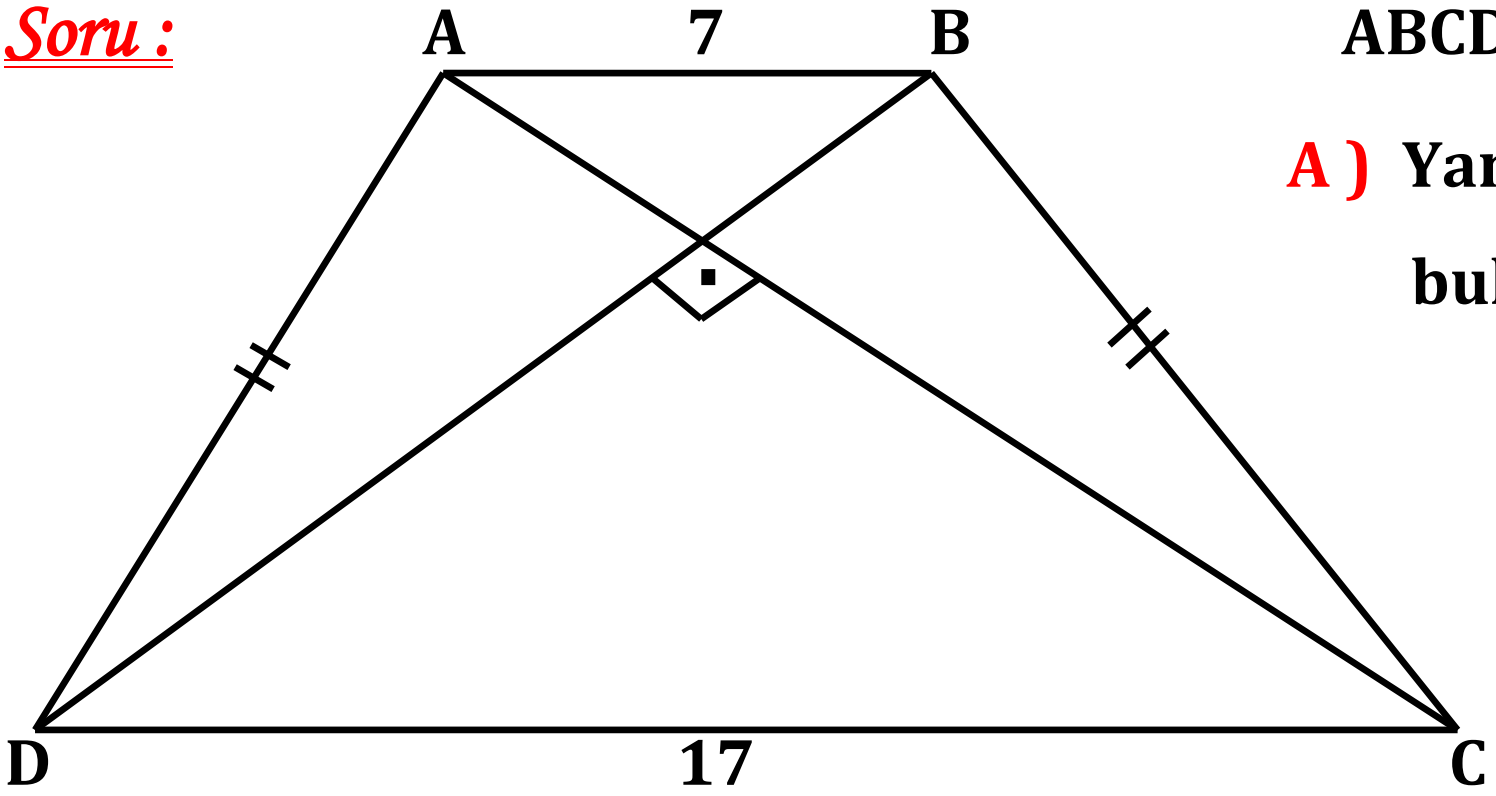


ABCD ikizkenar yamuk olsun.

Yamukta köşegenler dik kesişiyorlarsa , $h = \frac{x + y}{2}$ **olarak alınır.**

2. yol : **E 'den hem alt tabana hem de üst tabana diklik indirilirse , muhteşem üçlü kuralından da aynı sonuç bulunabilir.**

Soru :

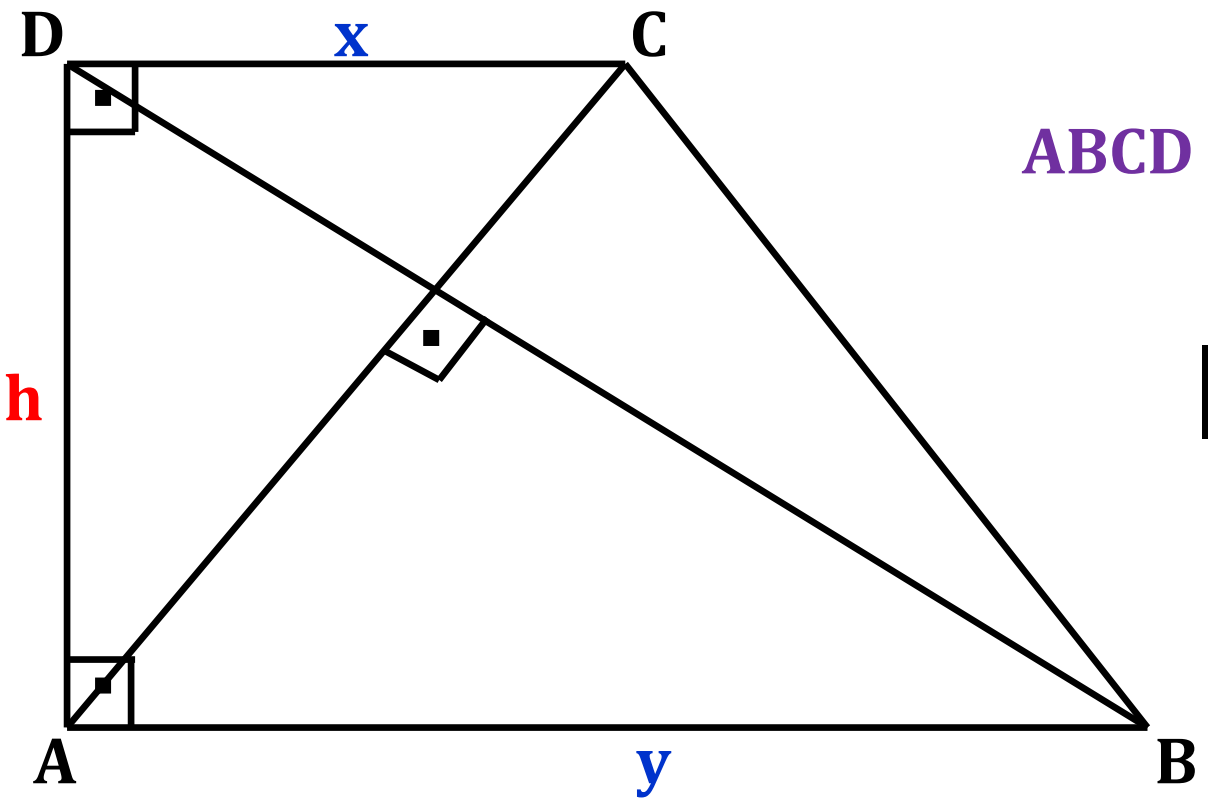


ABCD yamuğunda ;

A) Yamuğun yüksekliğini bulunuz.

B) | AD | = ?

Kural 5 :



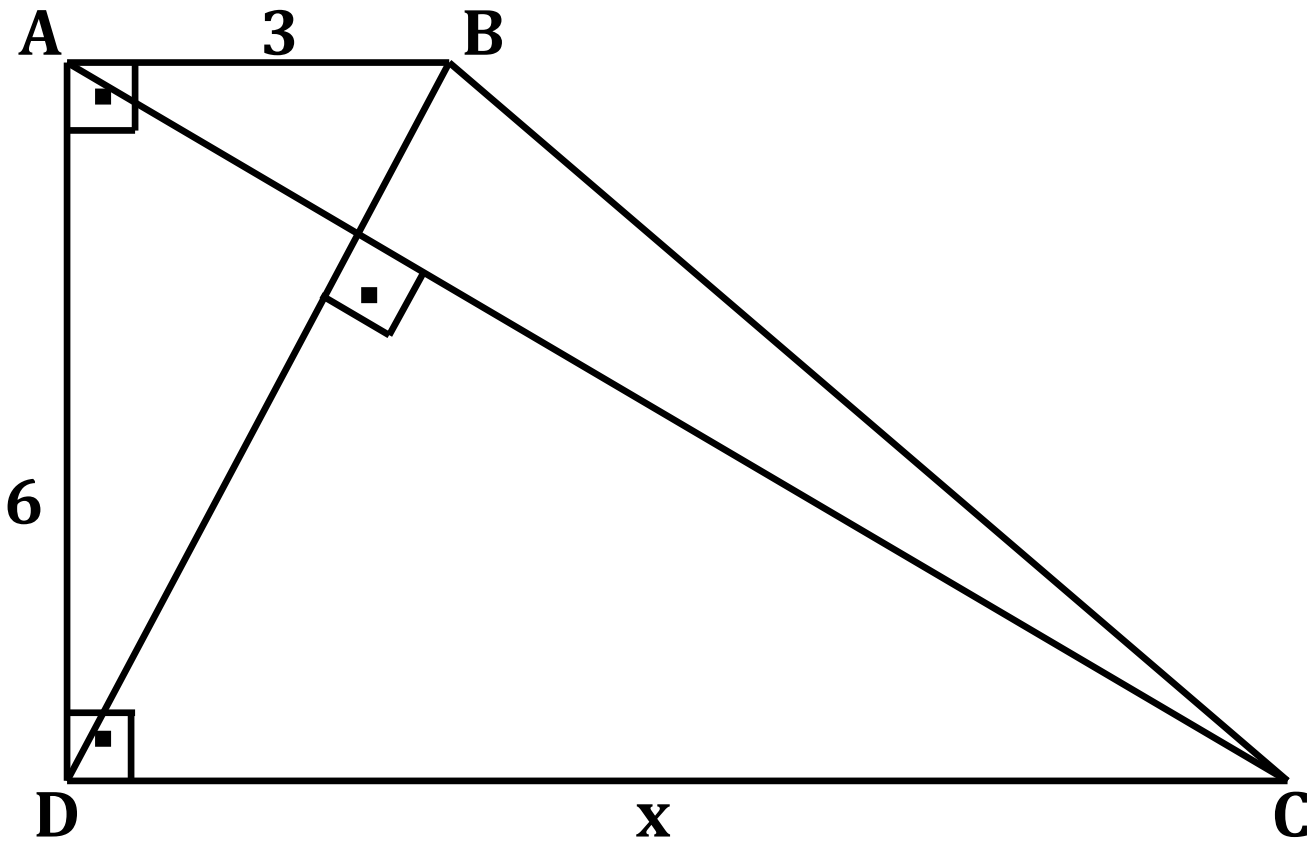
ABCD dik yamuğunda köşegenler dik kesişiyorlarsa ,

$$h^2 = x \cdot y$$

olarak alınır.

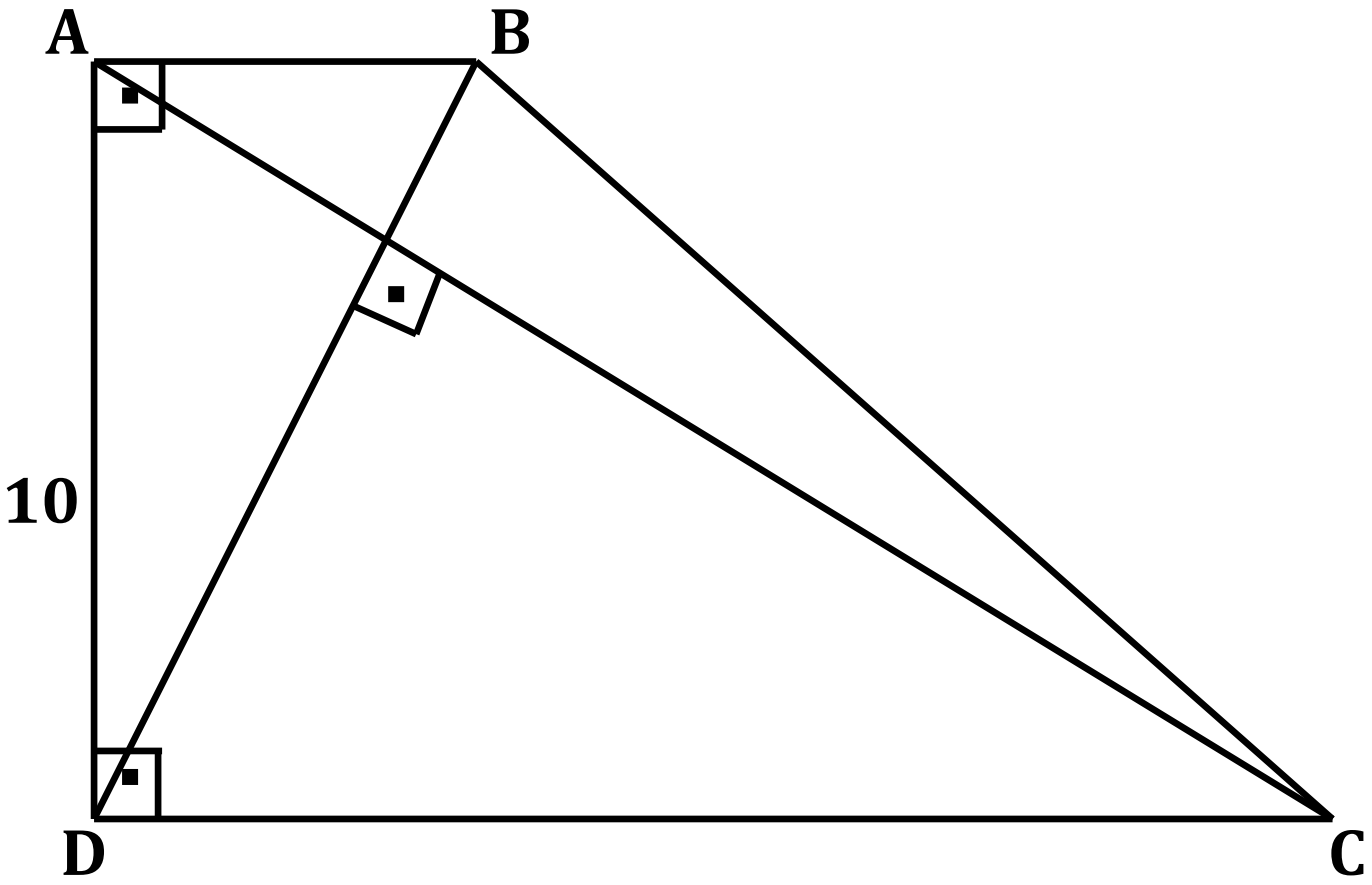
2. yol : **D 'den [CA] 'nın pareleli çizilir ve A uzatılarak birleş-meleri sağlanır. Öklit'ten sonuca ulaşılır.**

Soru : **ABCD dik yamuğunda ; A) x = ?**



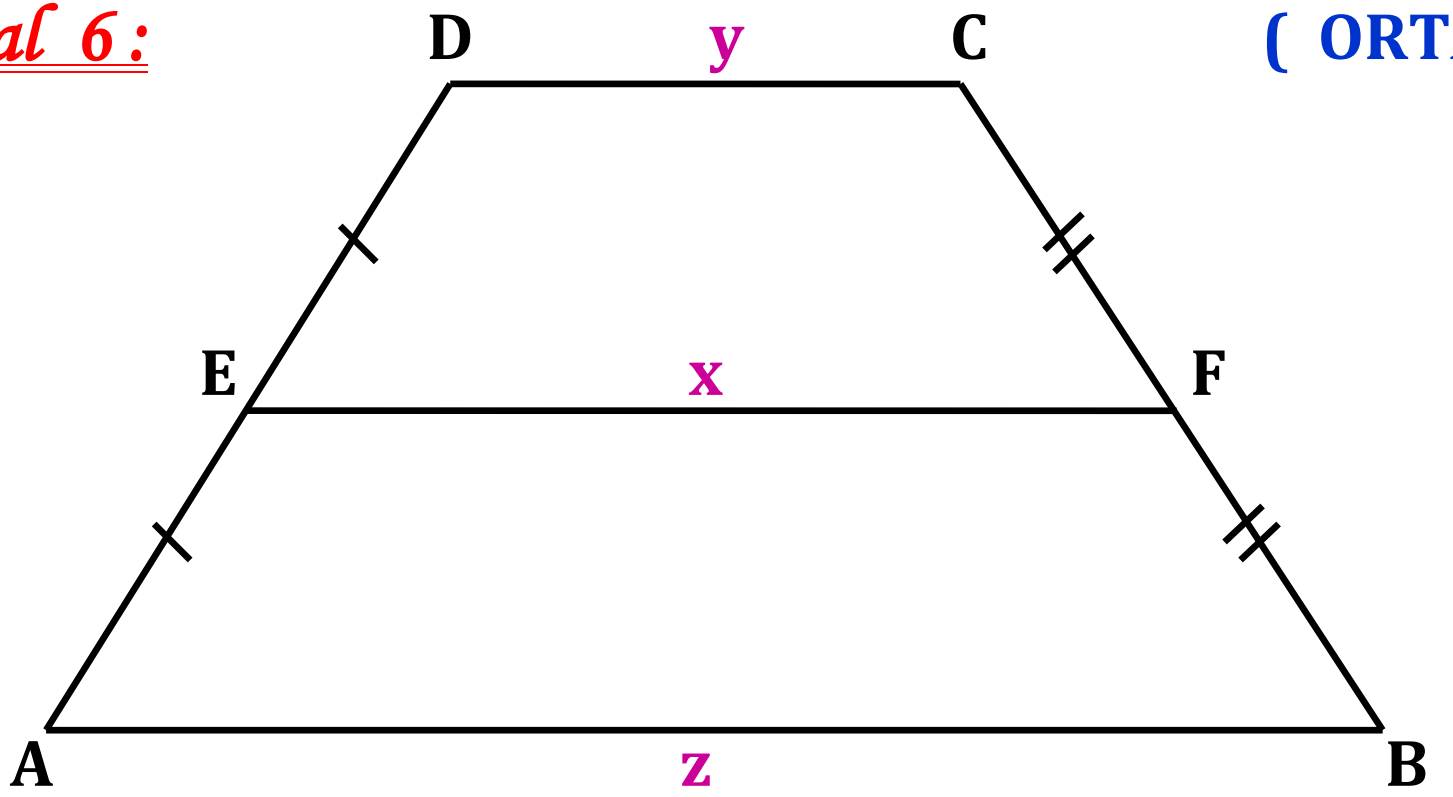
B) | BC | = ?

Soru : **ABCD dik yamuğunda $|DC| = 4 . |AB|$ ise $|AB| = ?$**



Kural 6 :

(ORTA TABAN)

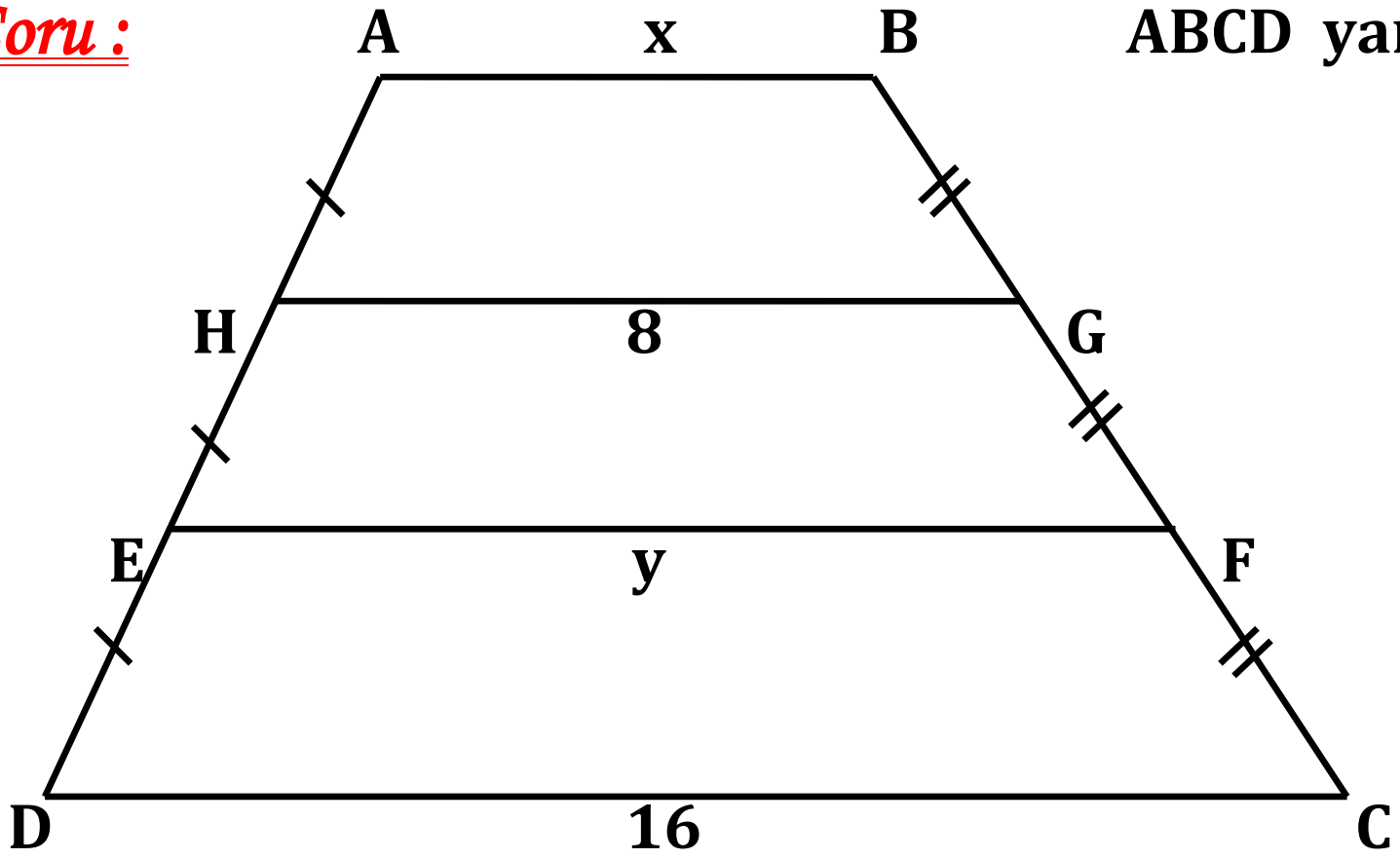


ABCD yamuğunda [EF] orta taban ise ,

$$x = \frac{y + z}{2}$$

olarak alınır.

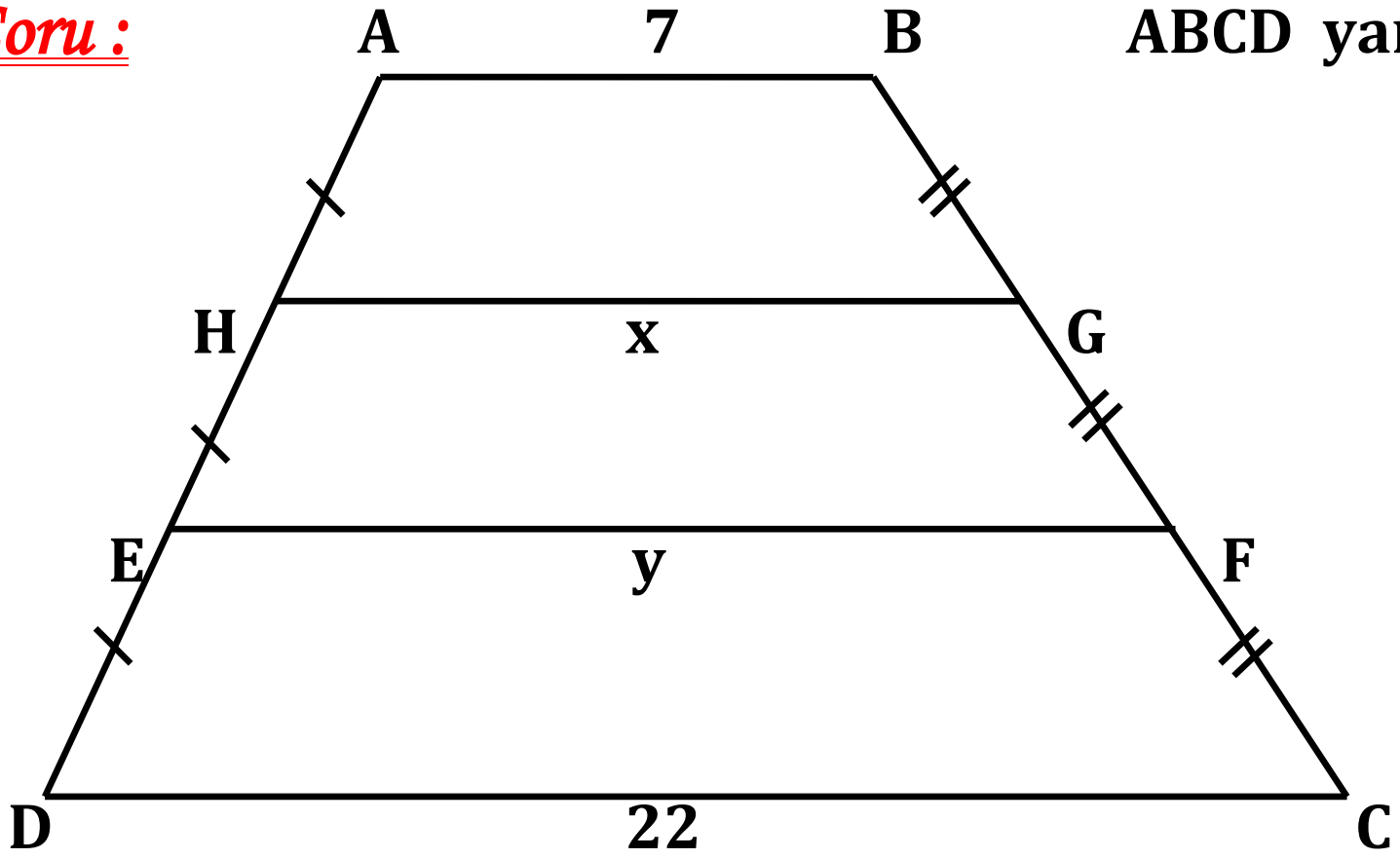
Soru : **ABCD yamuğunda x . y = ?**



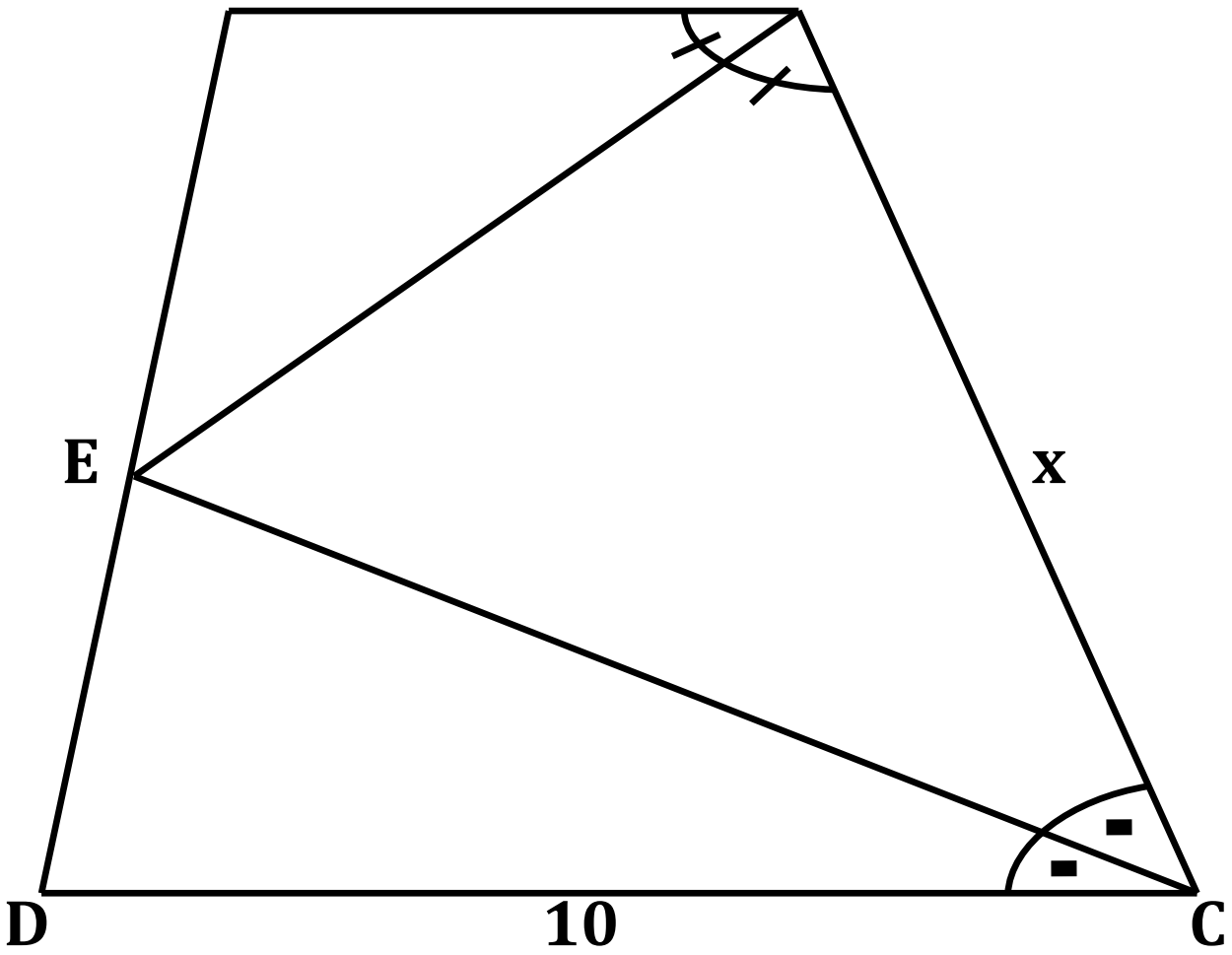
Not : **Parçalar arasındaki artma oranına göre de istenilenler bulunabilir.**

Soru :

ABCD yamuğunda y – x = ?

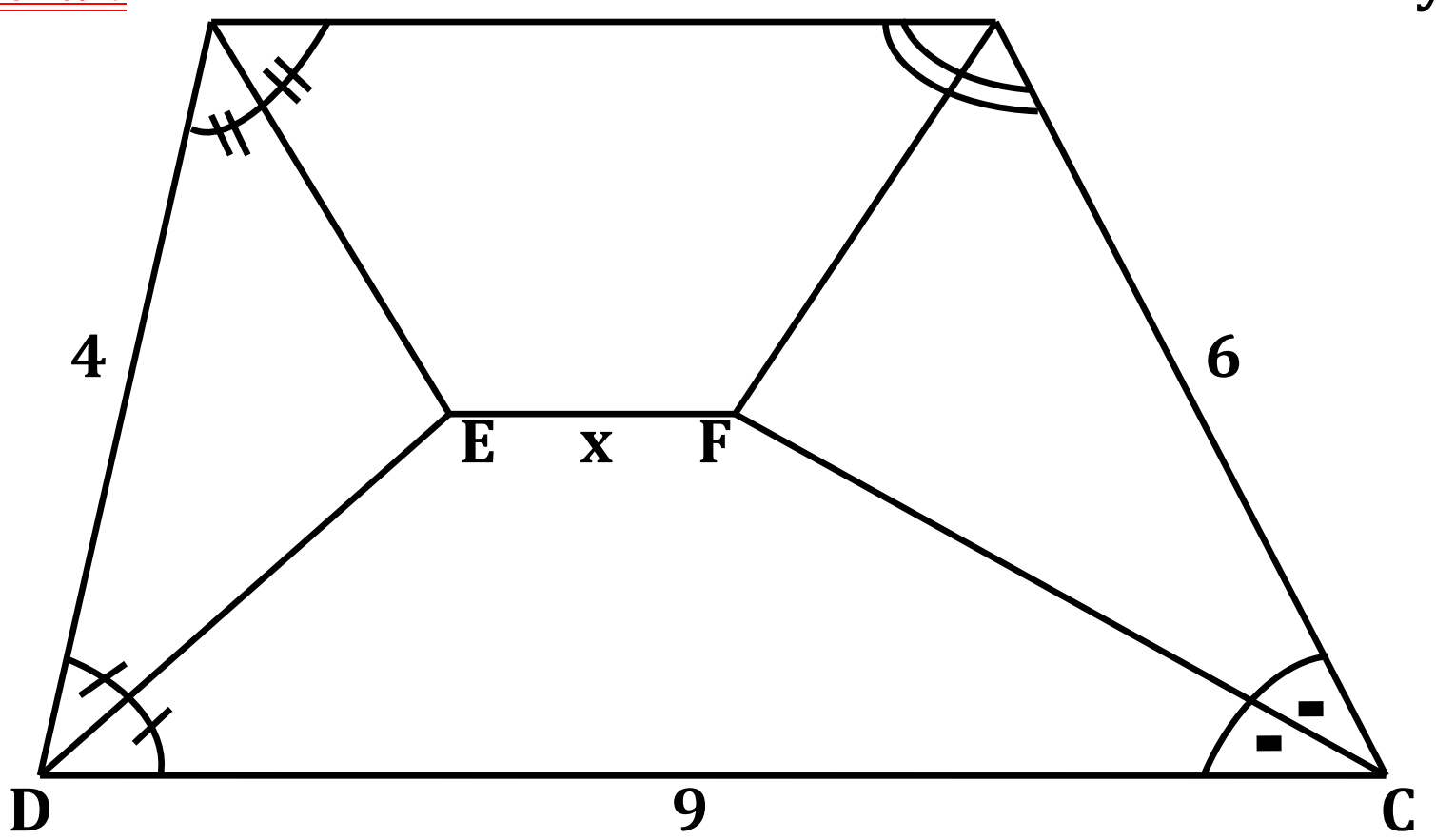


Soru : **ABCD yamuğunda x = ?**

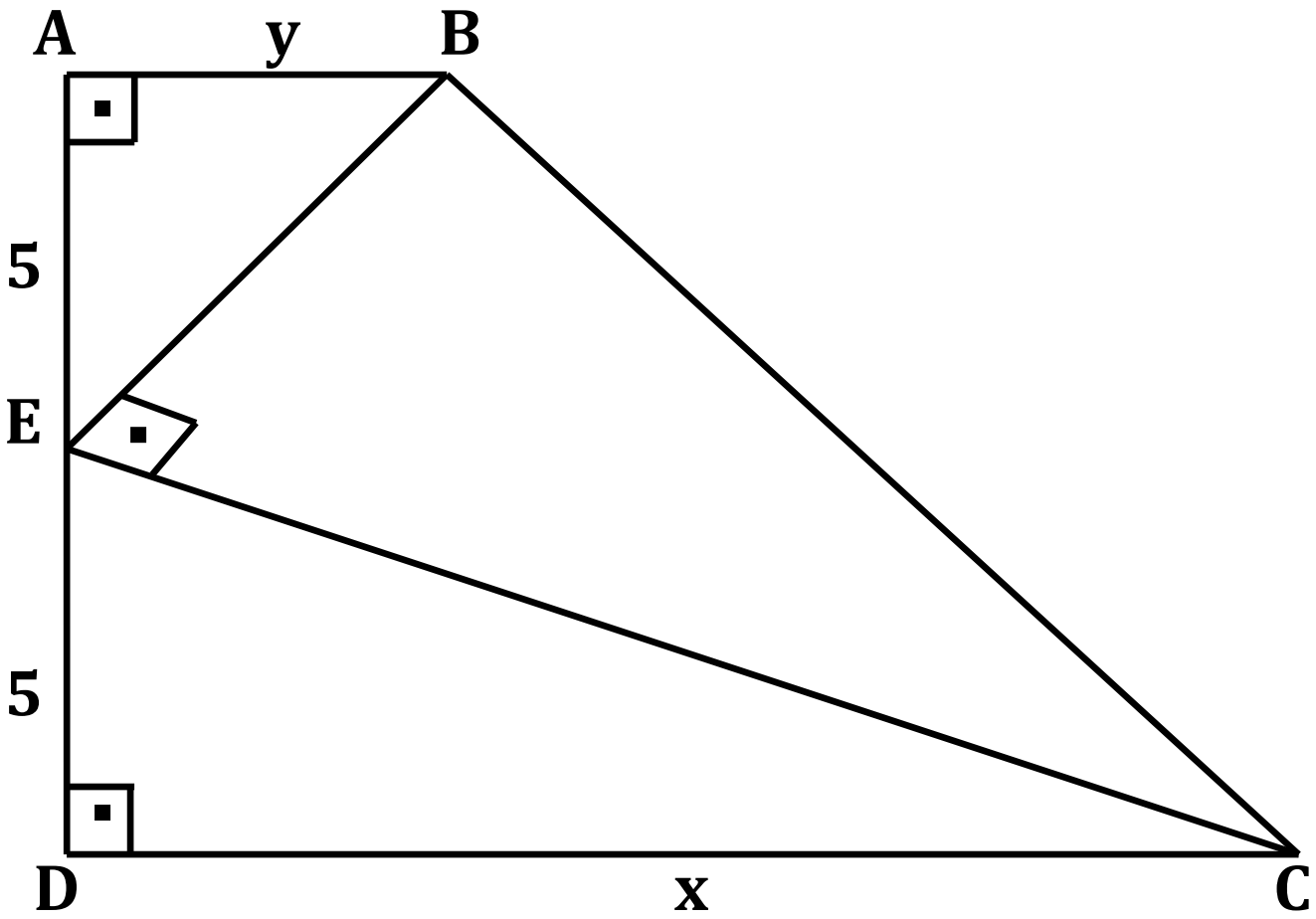


Not : **E 'den paralel çek. Z kuralı ve ikizkenar üçgenlerden x 'i bul.**

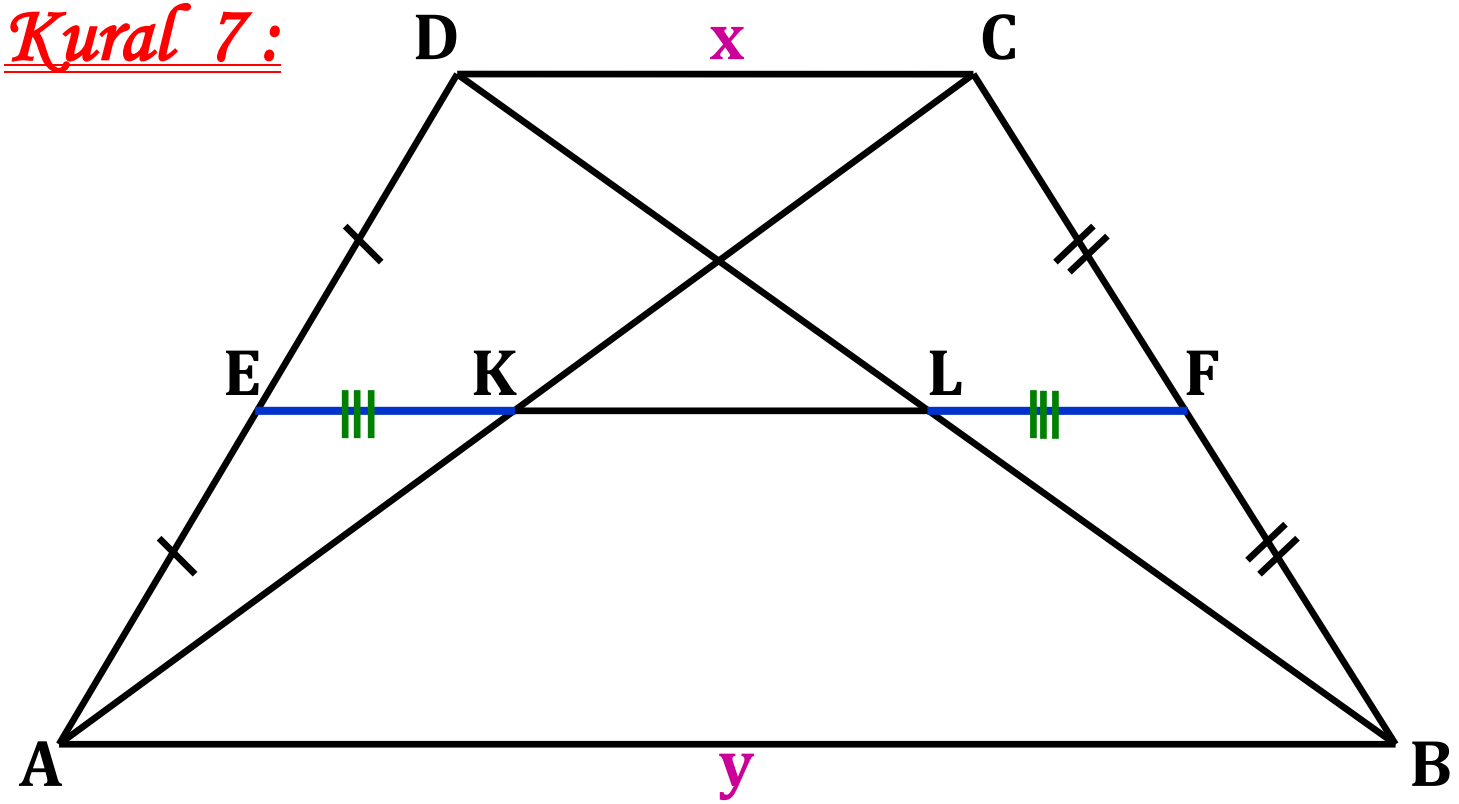
Soru : ABCD yamuğunda x = ?



Soru : **ABCD dik yamuğunda x + y = 14 ise Ç (ABCD) = ?**



Kural 7 :



ABCD yamuğunda

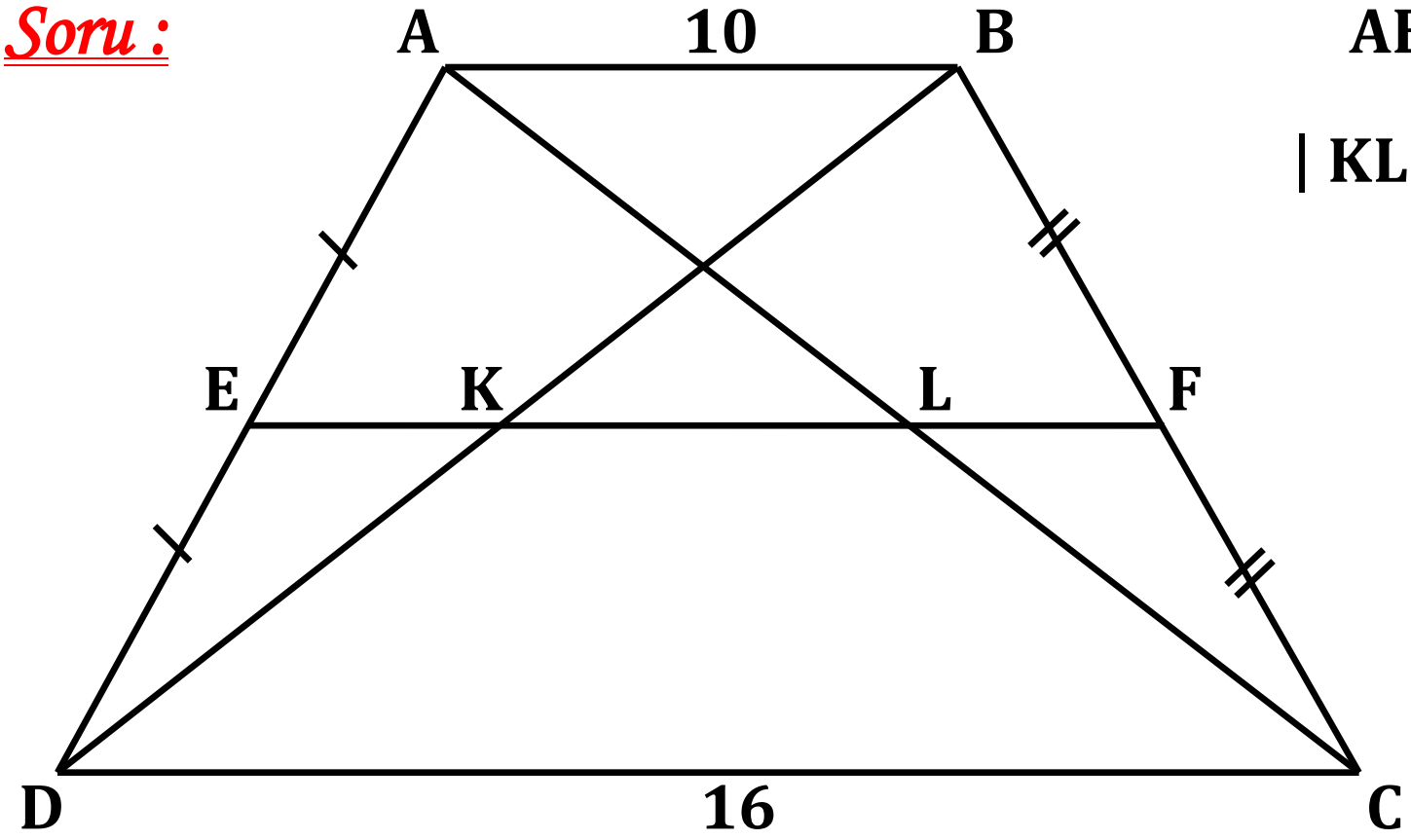
E ile F orta

noktalar ise ; **1)** $|EK| = |LF|$ **ve**

2) $$|KL| = \frac{y - x}{2}$$ **olarak alınır.**

2. yol : **Benzerlikten de istenen bulunabilir.**

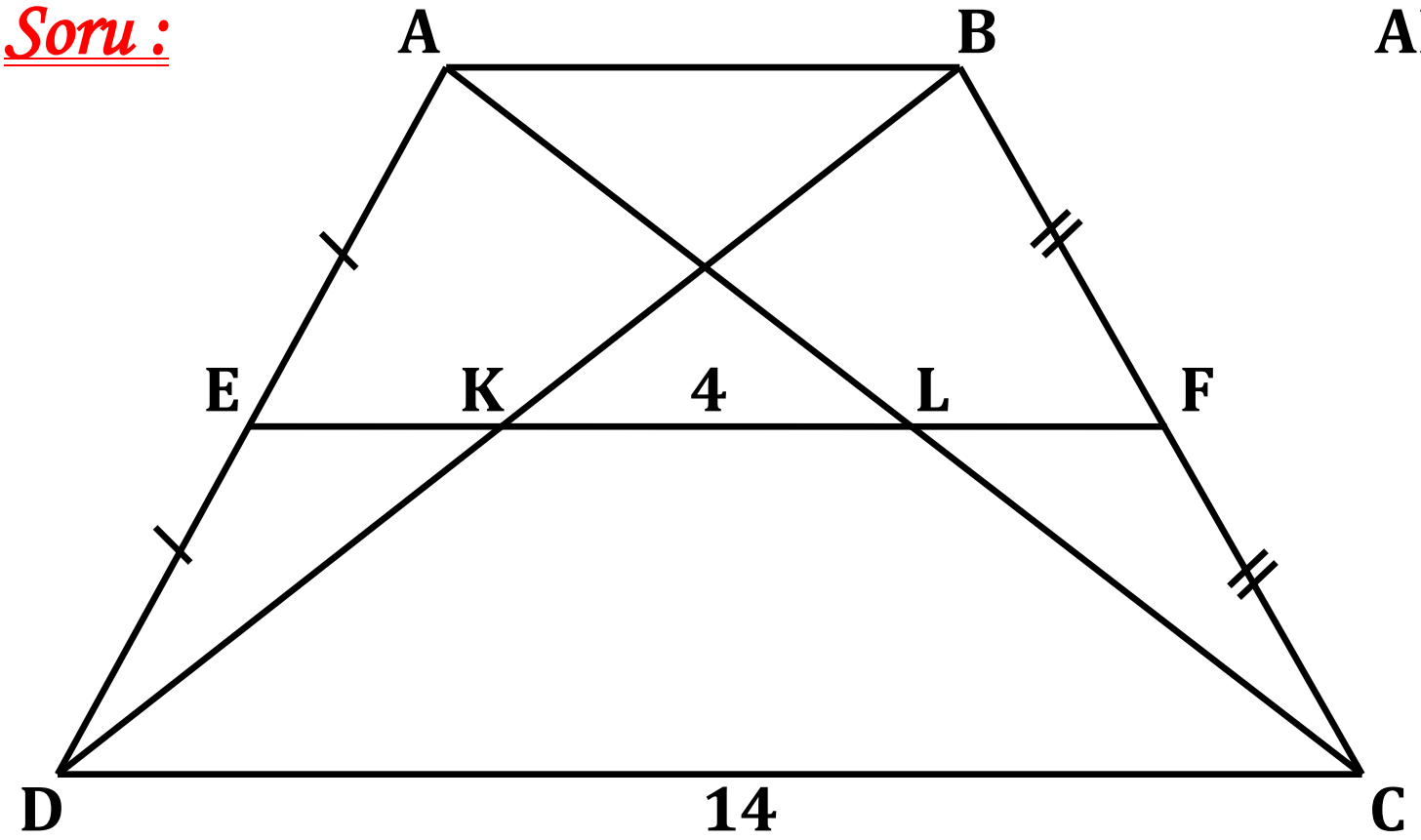
Soru :



ABCD yamuk ise

| KL | = ? ve | EK | = ?

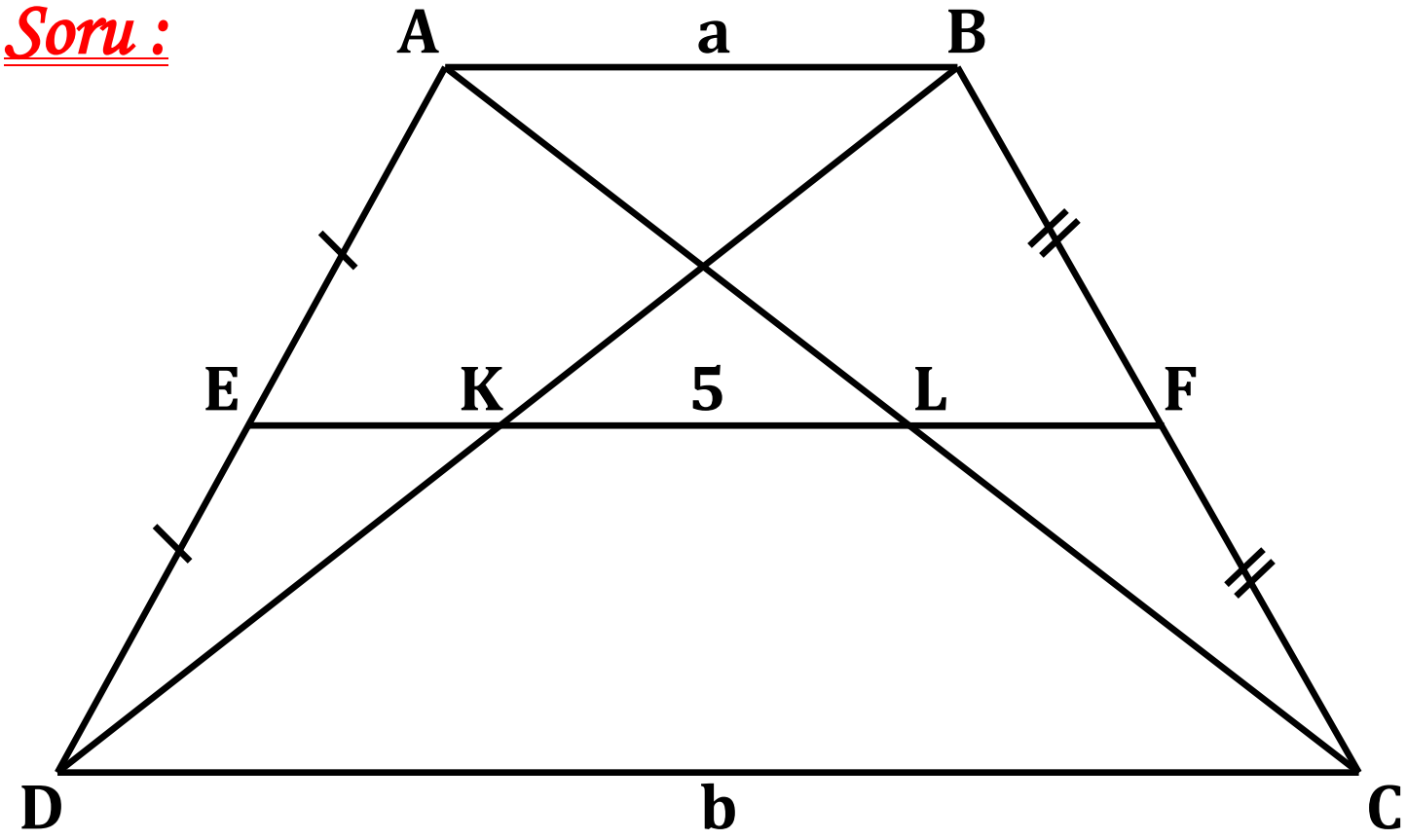
Soru :



ABCD yamuk ise

| EK | = ?

Soru :

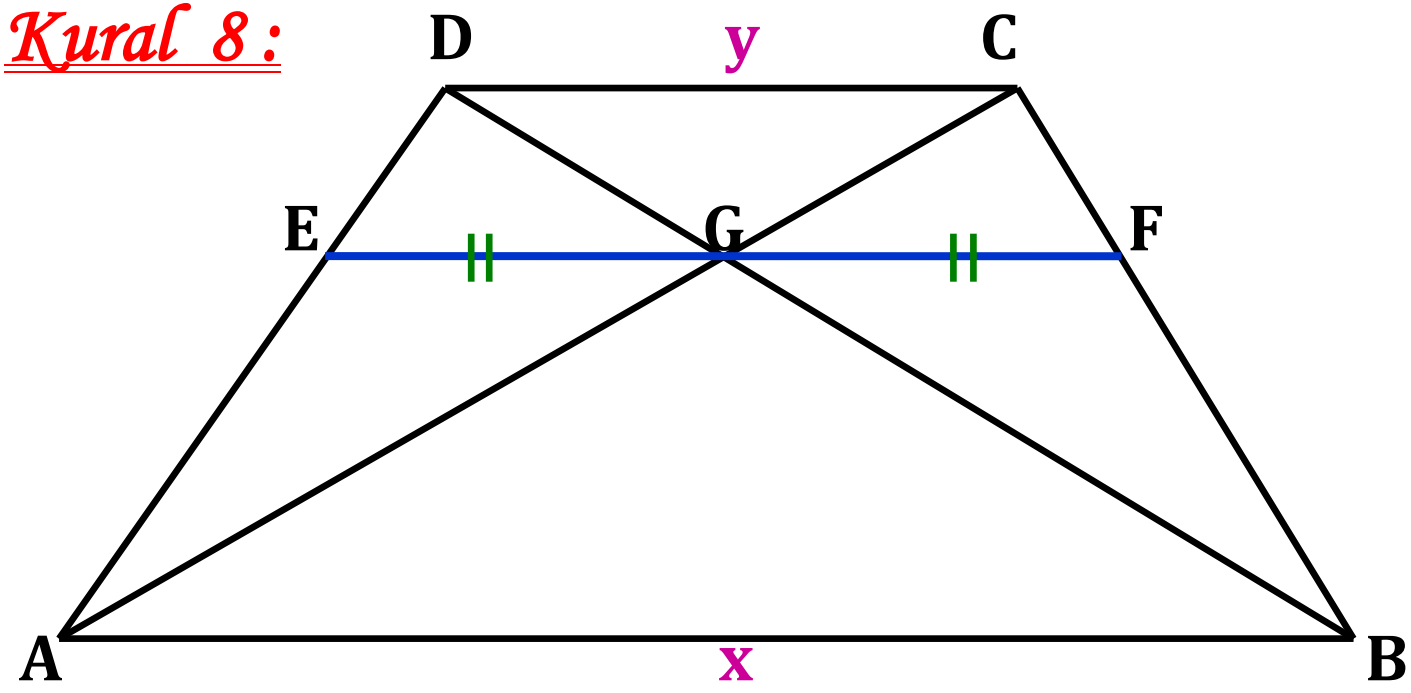


ABCD yamuk ve

| EF | = 13 br ise

a = ? , b = ?

Kural 8 :



ABCD yamuk ve

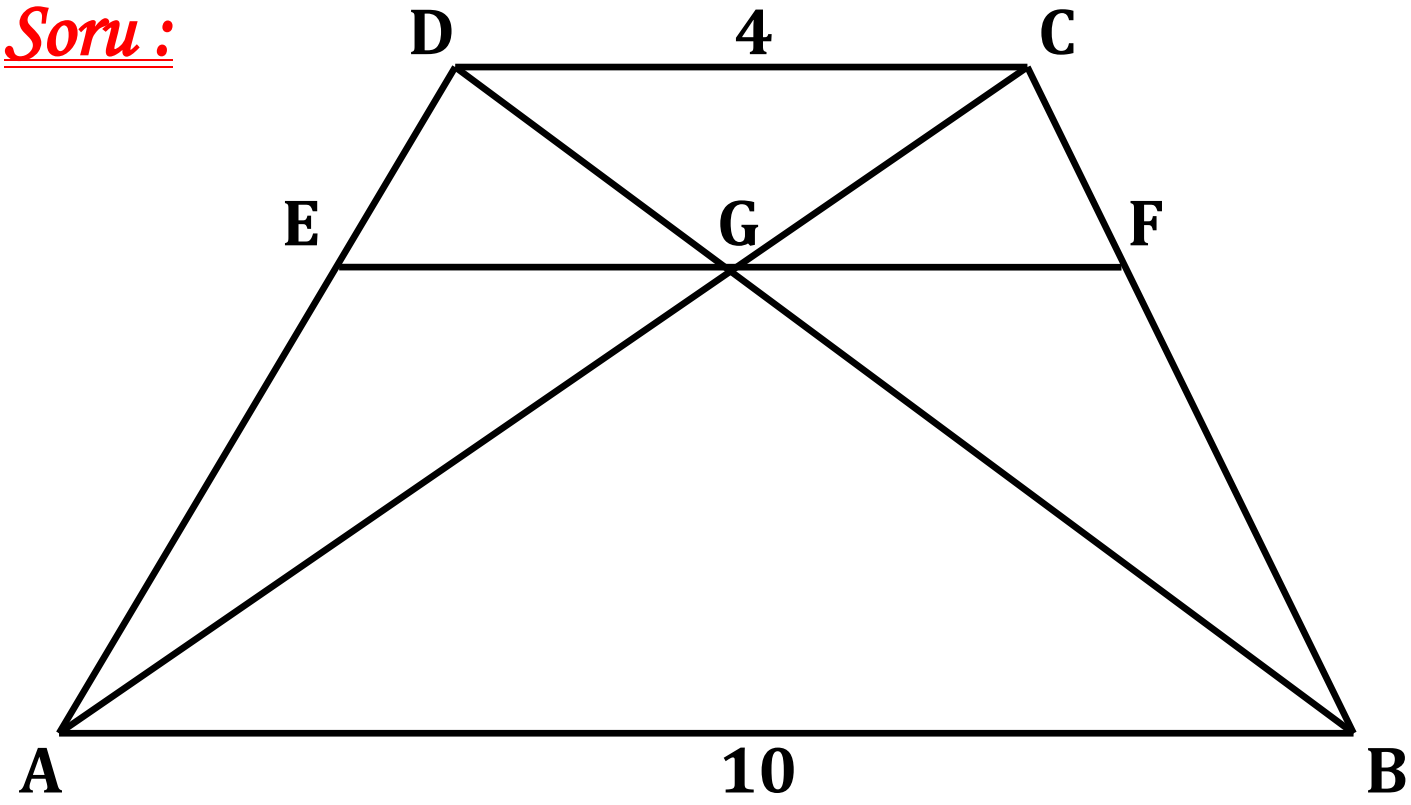
[EF] // [AB] olsun.

1) $$|EF| = \frac{2x \cdot y}{x + y}$$ **olarak alınır.**

2) $$|EG| = |GF| = \frac{x \cdot y}{x + y}$$ **olarak alınır.**

2. yol : **Kelebek kuralından da istenen bulunabilir.**

Soru :

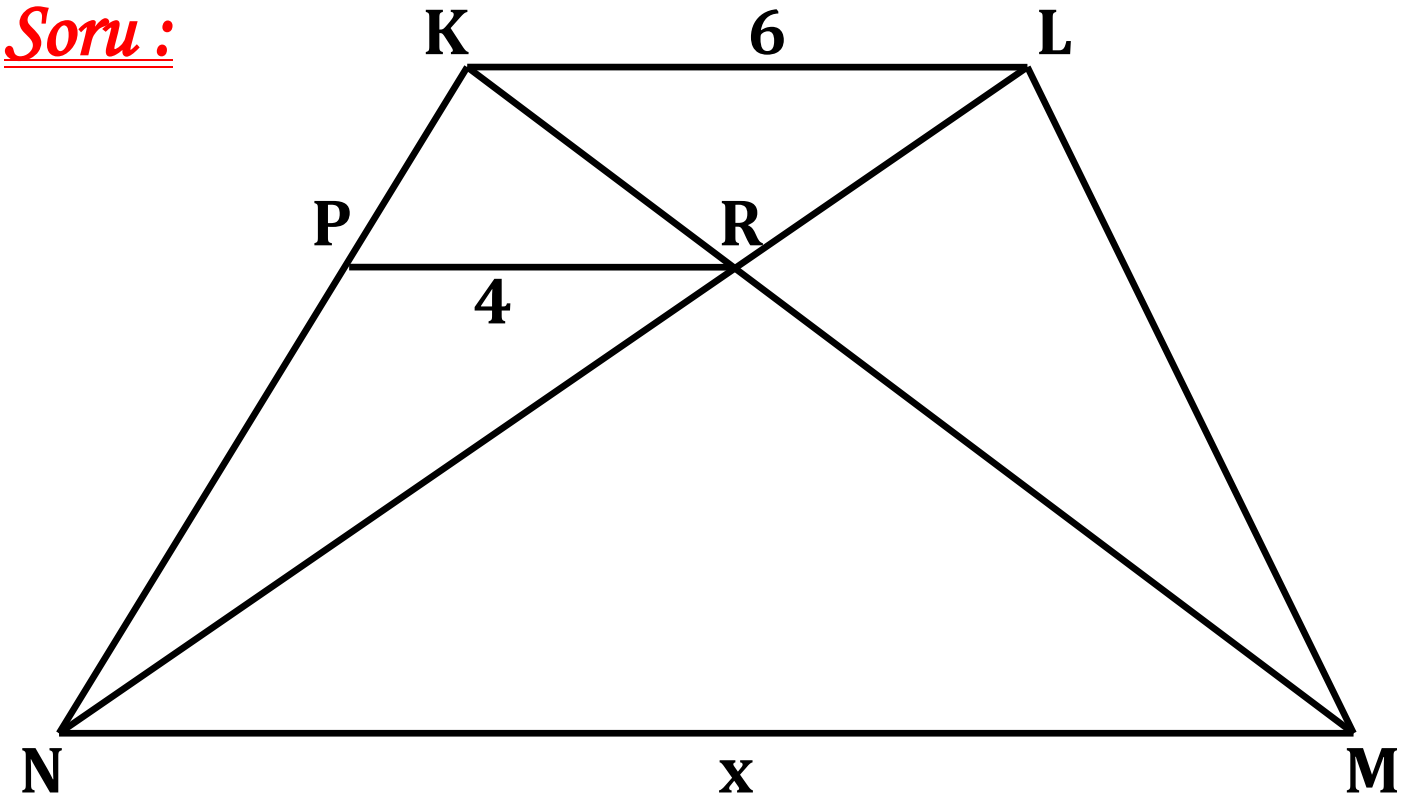


ABCD yamuk ve

[EF] // [AB] ise

| EG | = ?

Soru :



KLMN yamuk ve

[PR] // [KL] ise

x = ?