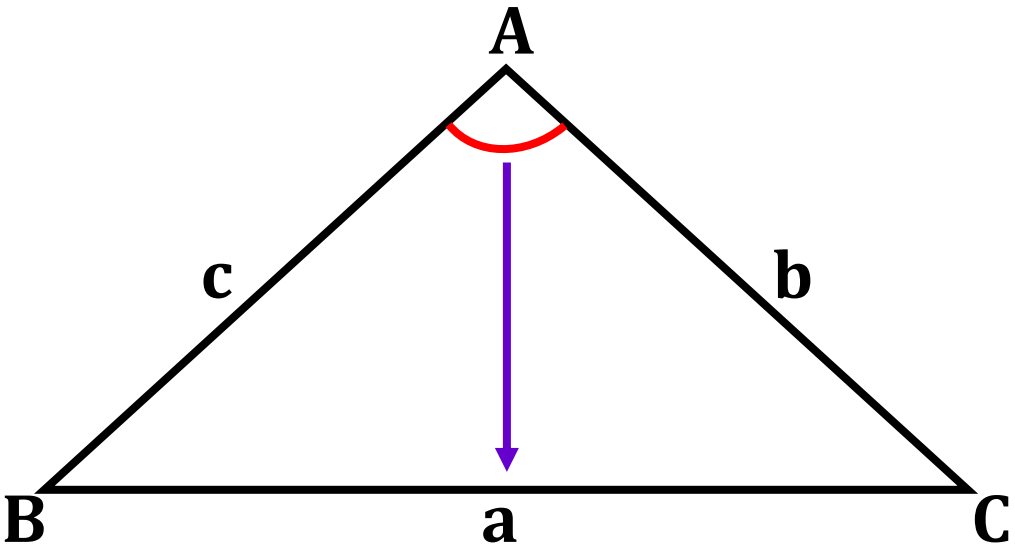
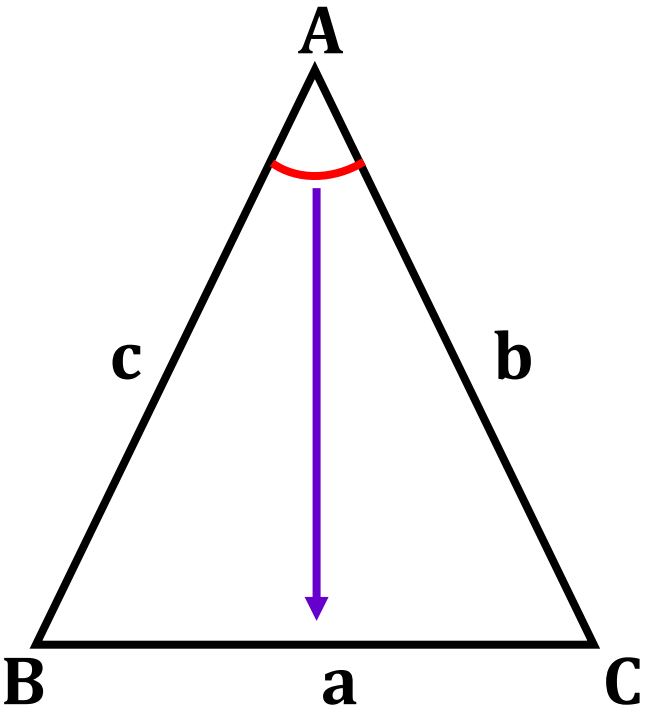
Dik Üçgene Başlarken

Not : **A)** $m(\widehat{A}) > 90^\circ$ ise ;



$a^2 > b^2 + c^2$

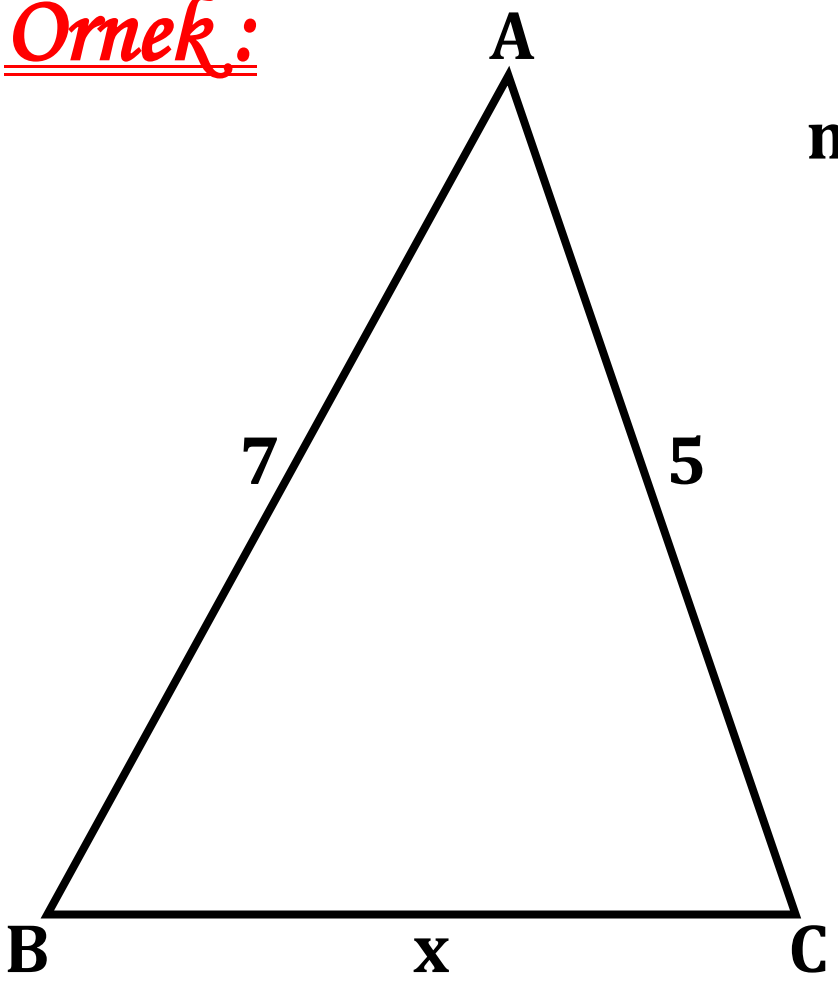
B) $m(\widehat{A}) < 90^\circ$ ise ;



$a^2 < b^2 + c^2$

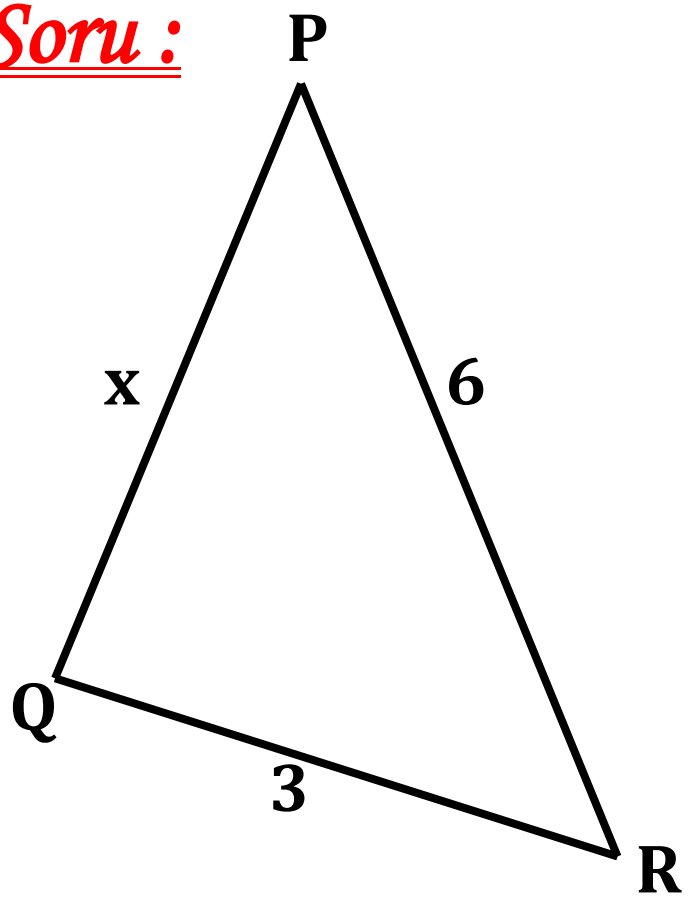
olarak alınır. Hem bulduğumuz çözüm hem de üçgen eşitsizliği kullanılarak ortak çözüm bulunur. Karekökün yaklaşık değeri alınır. Örneğin $\sqrt{56} = 7,\ldots$ gibi.

Örnek :



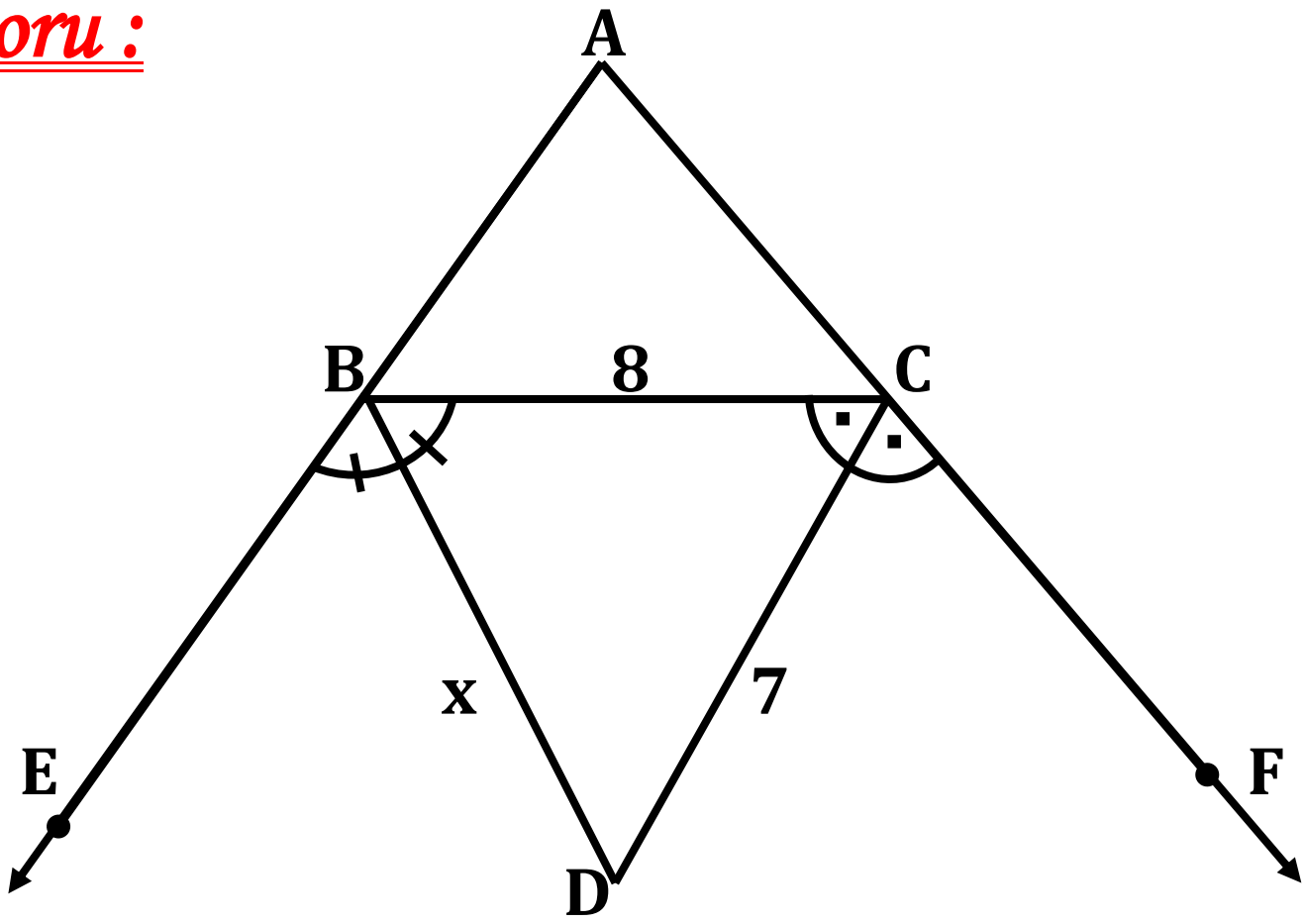
$m(\widehat{A}) < 90^\circ$ ise x tam sayısı en fazla kaç olmalıdır ?

Soru :



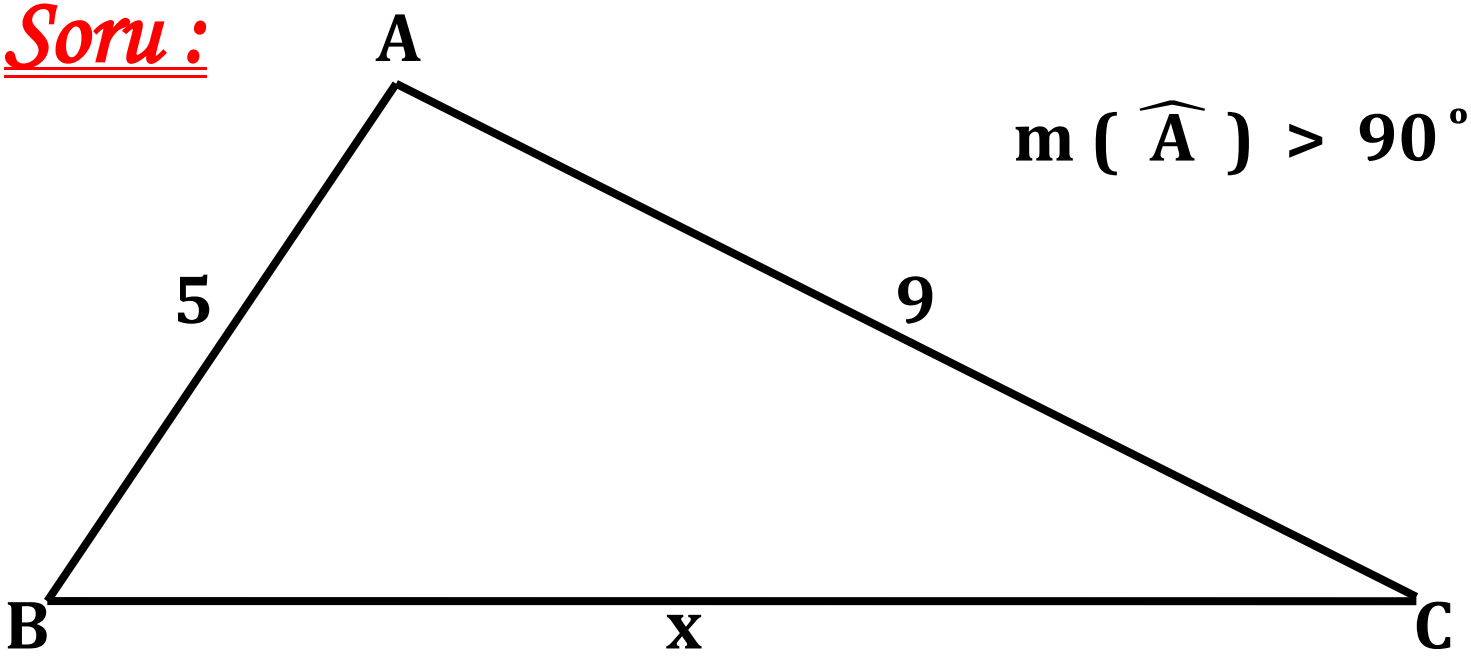
$m(\widehat{R}) < 90^\circ$ ise x tam sayılarının toplamı ne olmalıdır ?

Soru :



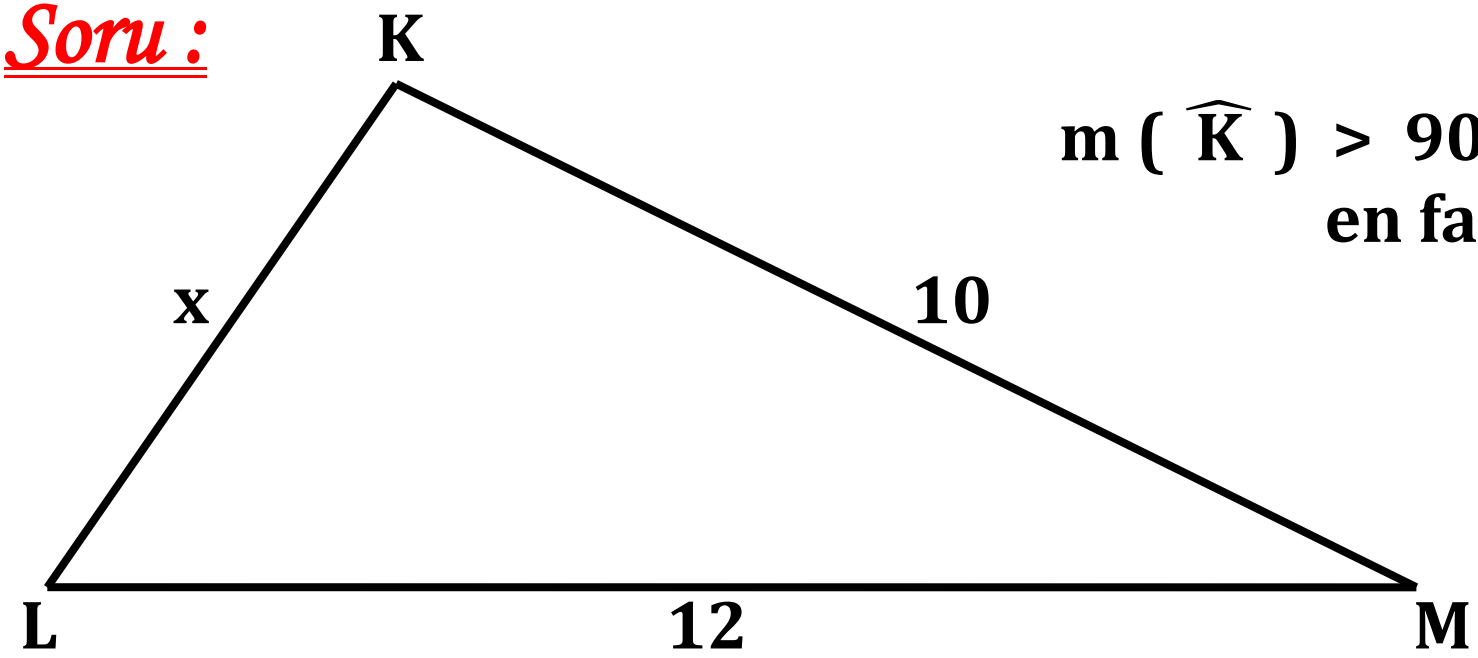
Verilenlere göre
x tam sayısı en
az kaç olmalıdır ?

Soru :



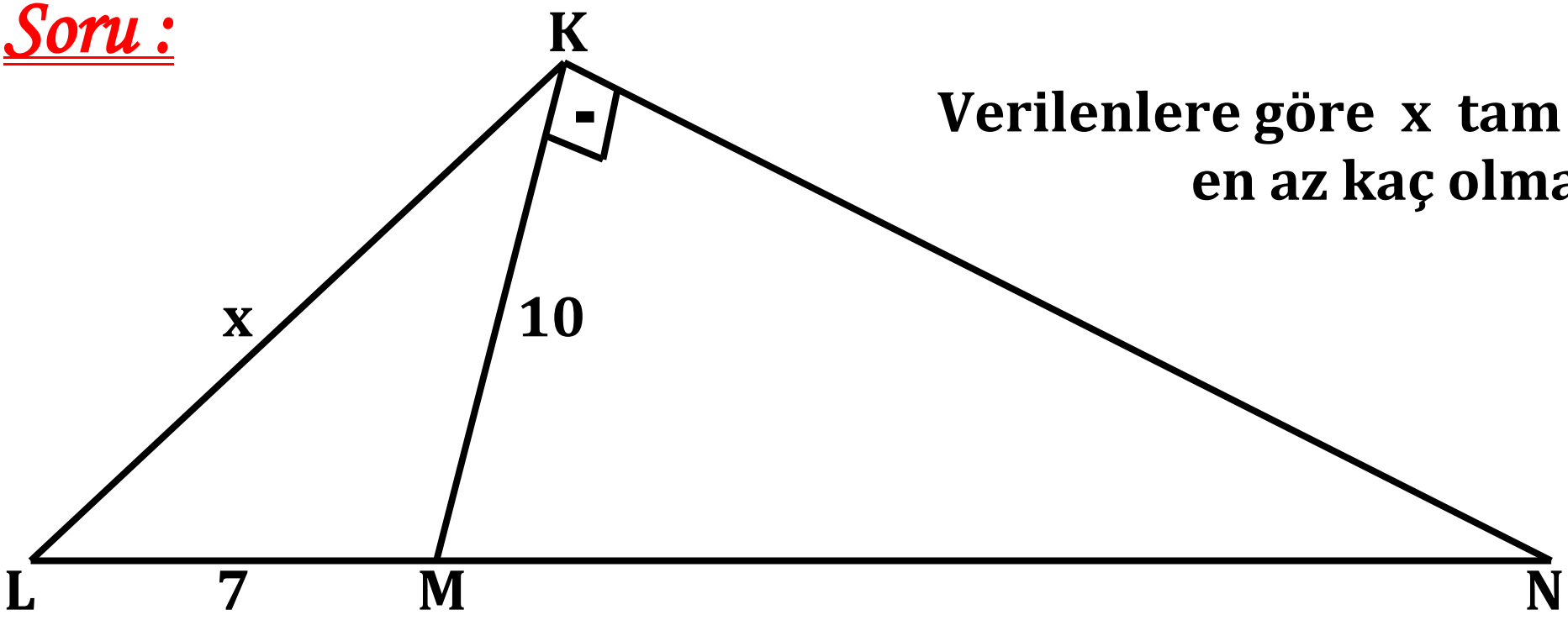
$m(\widehat{A}) > 90^\circ$ ise x tam sayıları ne olmalıdır ?

Soru :



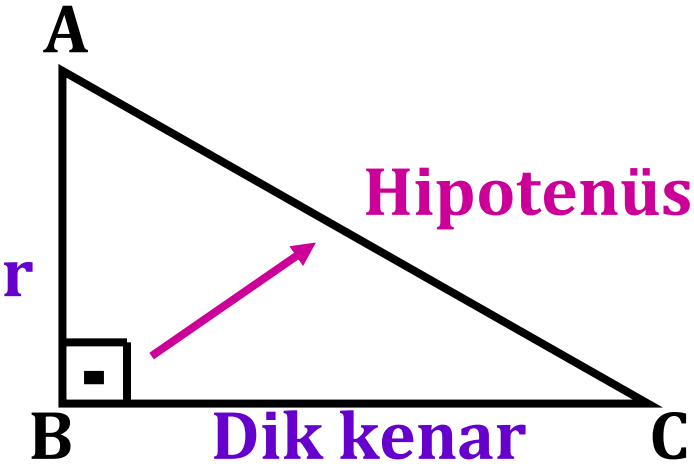
$m(\widehat{K}) > 90^\circ$ ise x tam sayısı en fazla kaç olmalıdır ?

Soru :



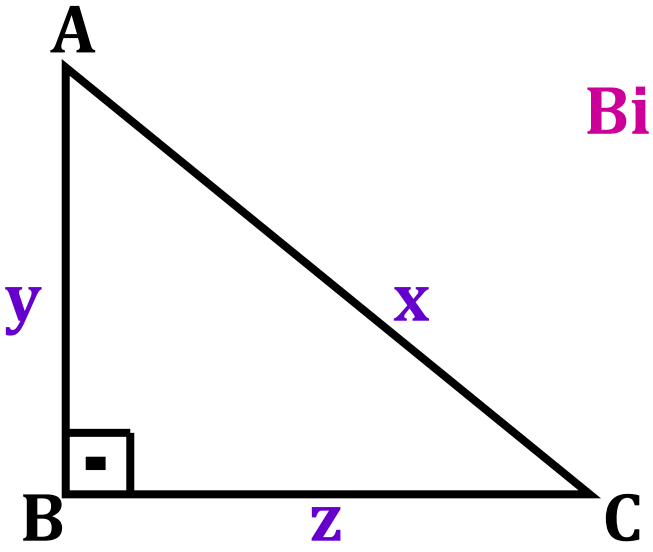
Verilenlere göre x tam sayısı en az kaç olmalıdır ?

DİK ÜÇGEN



ABC bir dik üçgendir.

Pisagor Teoremi



Bir dik üçgende; hipotenüsün uzunluğunun karesi, dik kenarların uzunluklarının kareleri toplamına eşittir.

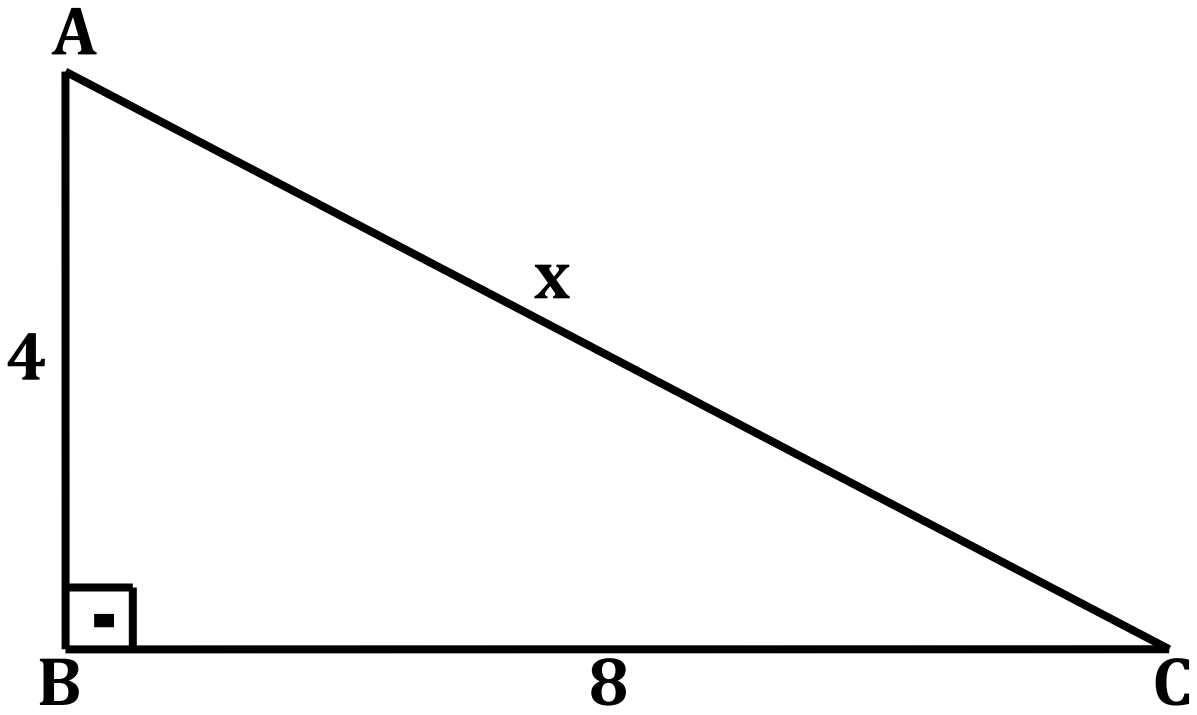
Yandaki ABC üçgeninden,

$$x^2 = y^2 + z^2$$

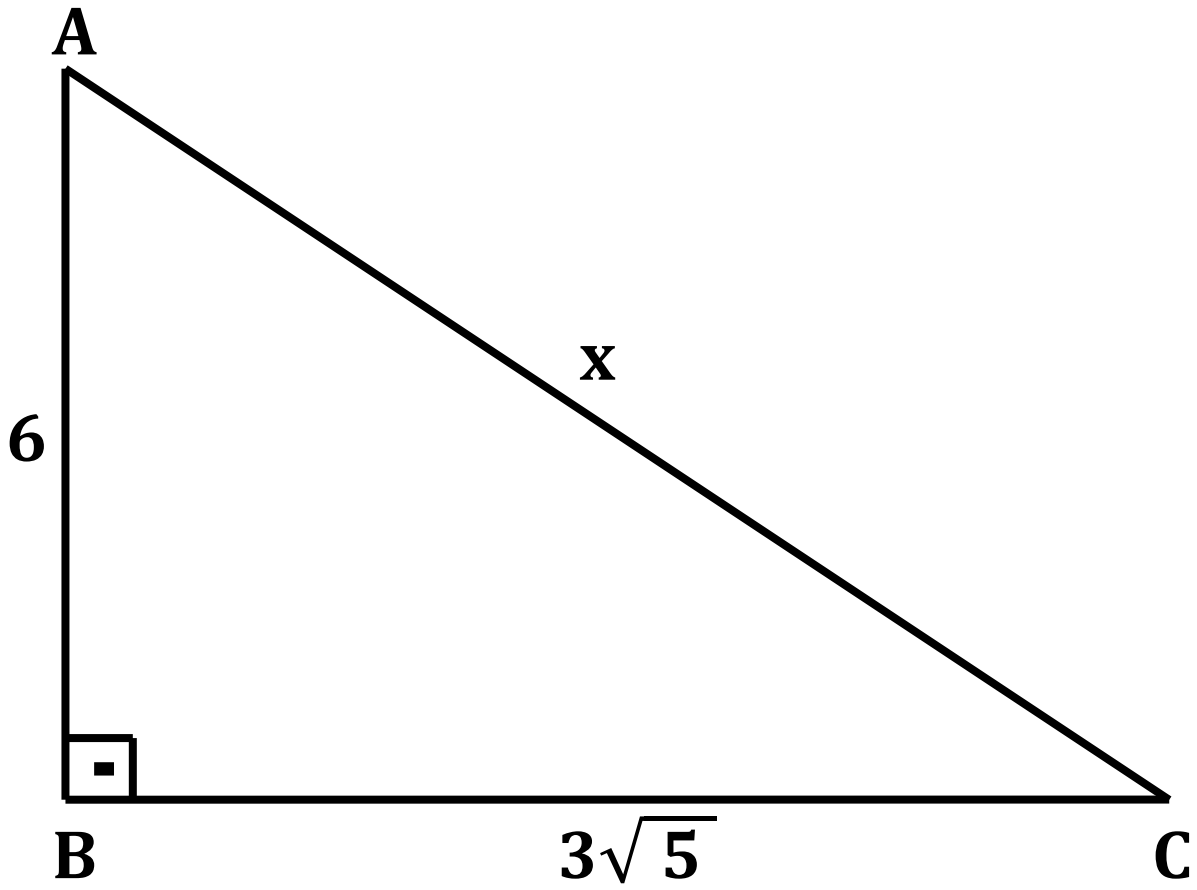
olarak alınır.

Kuralın tersi de geçerlidir. Eşitlikten x 'i gören köşe açısı 90° 'dir.

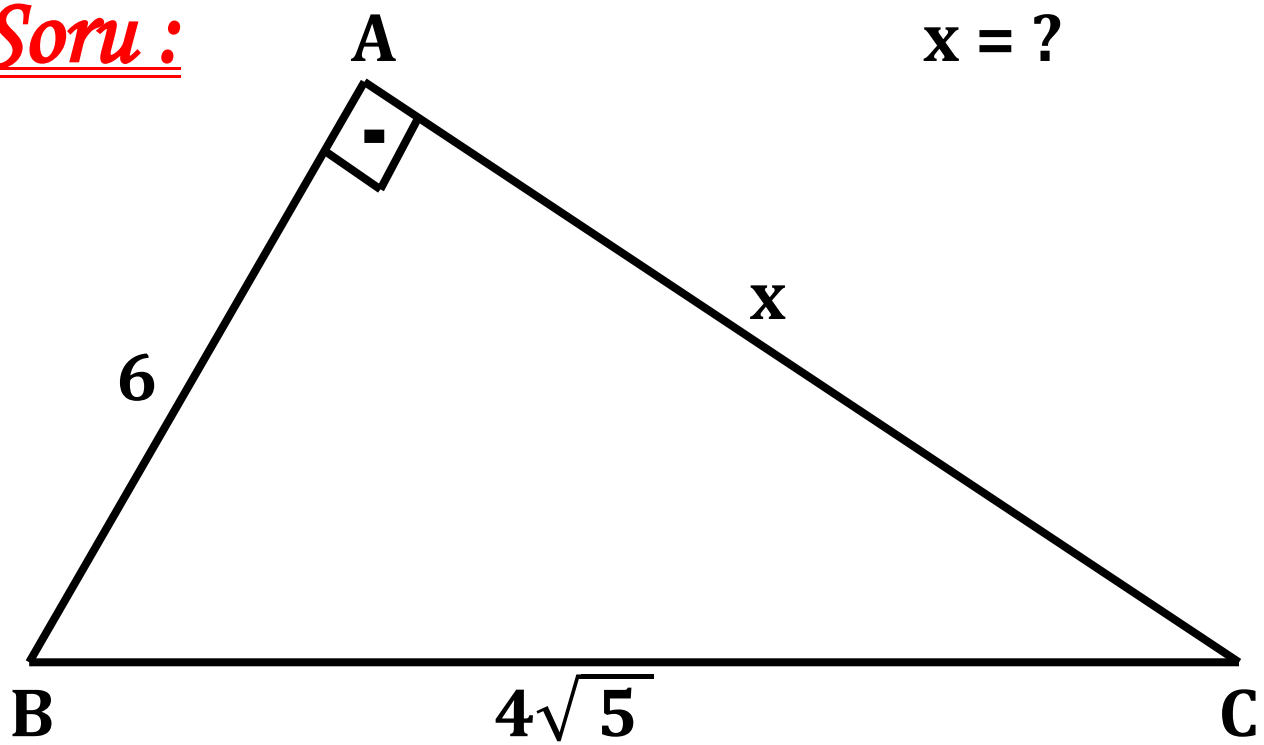
Örnek : x = ?



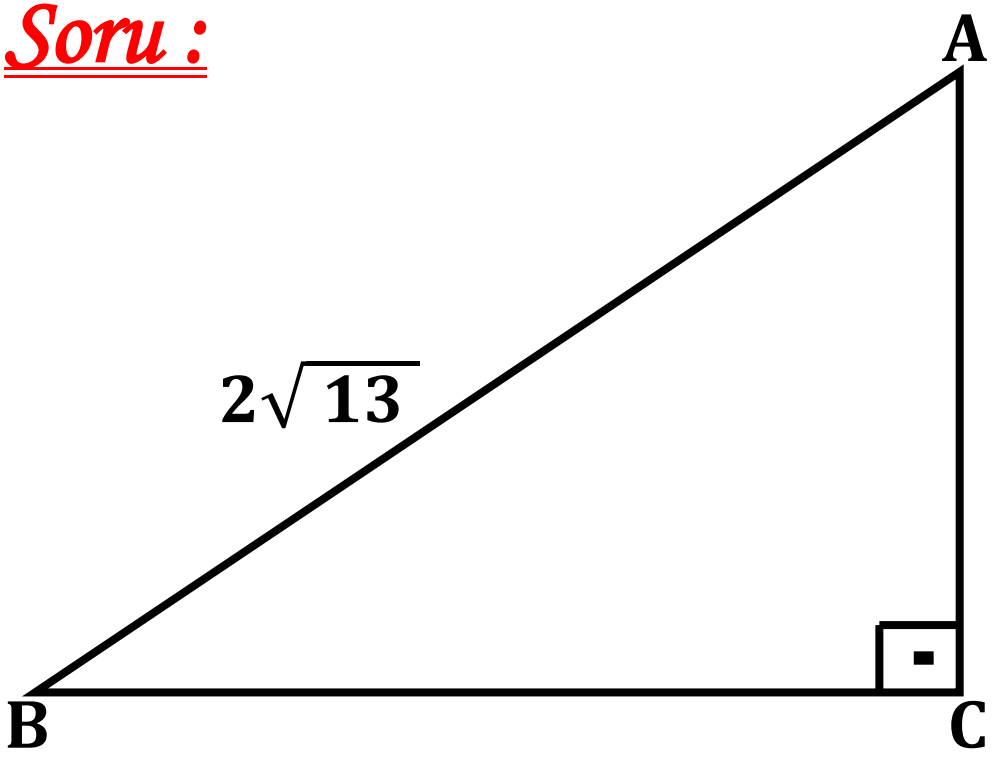
Soru : **x = ?**



Soru :



Soru :

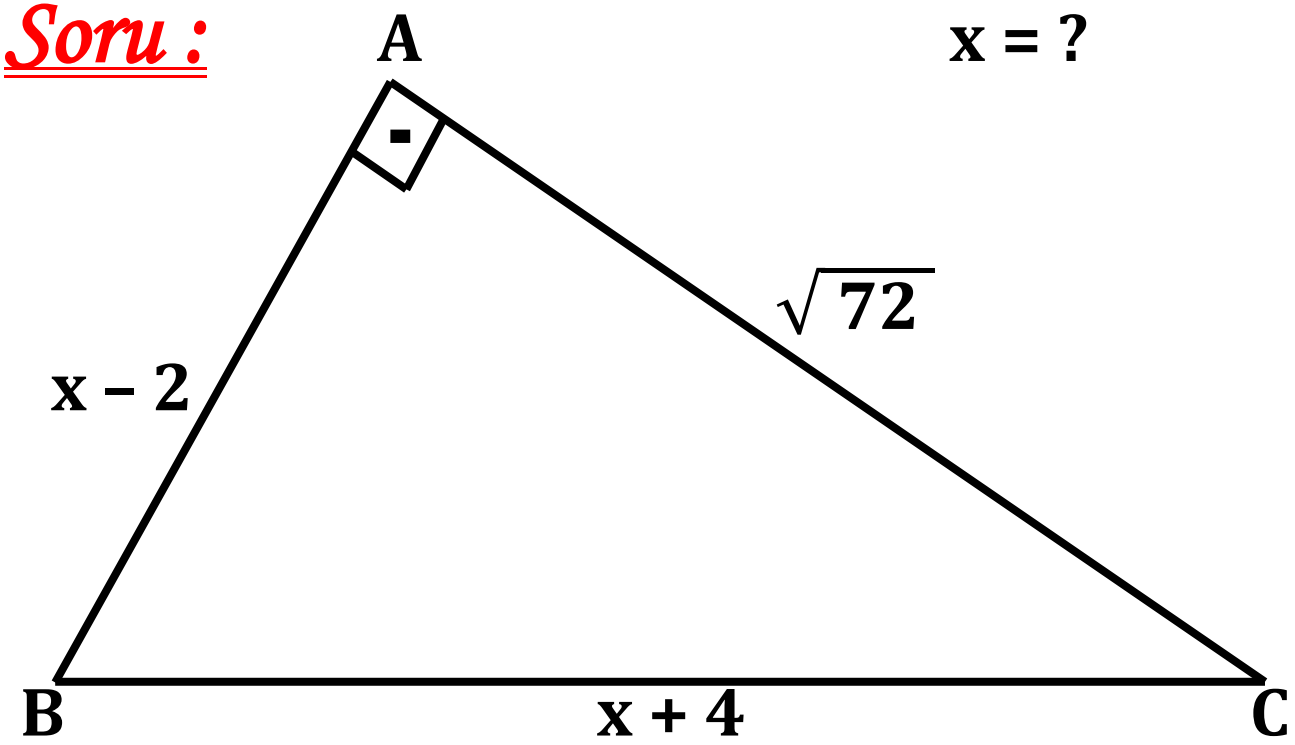


3 . | AC | = 2 . | BC |

ise | AC | = ?

Soru :

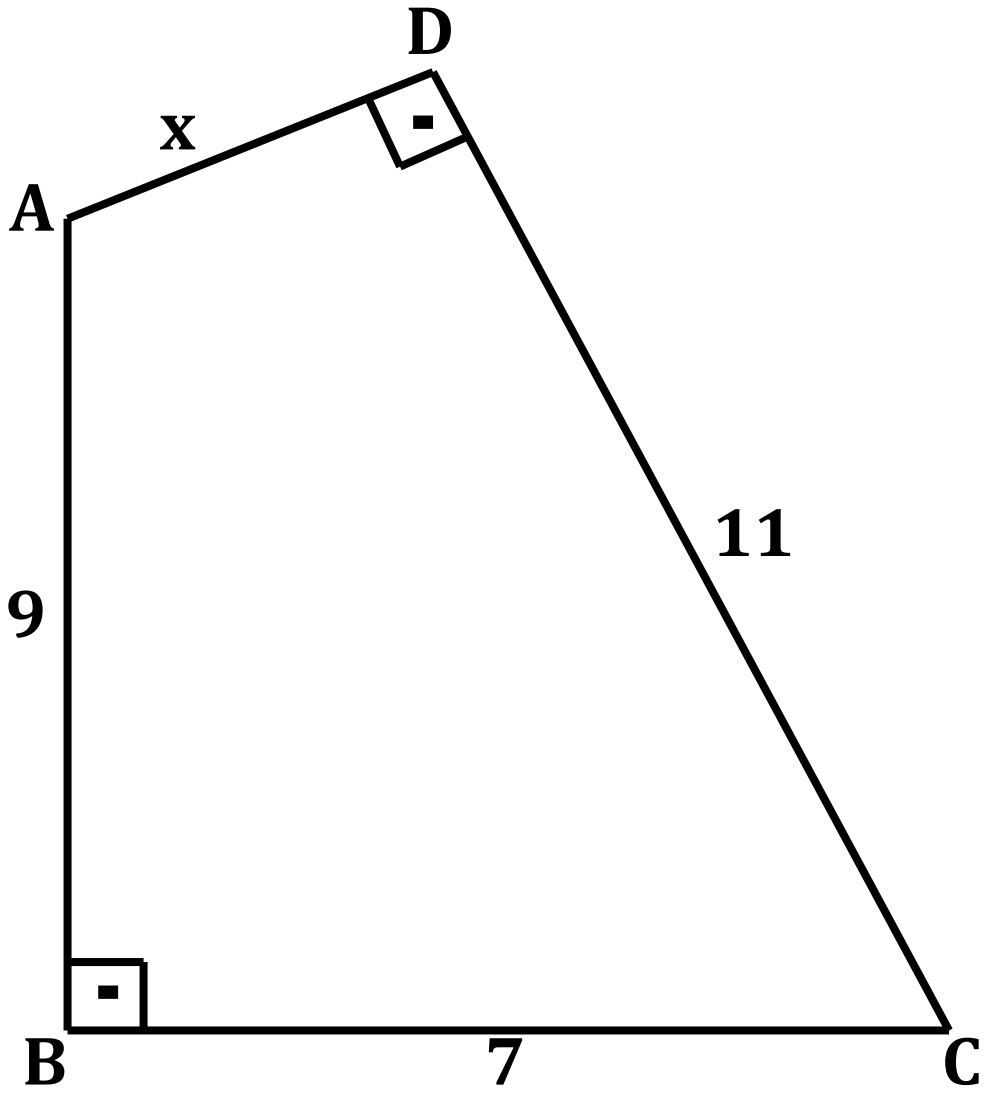
x = ?



$(a+b)^2 = a^2 + 2a.b + b^2$ **özdeşliğinden yararlanılır.**

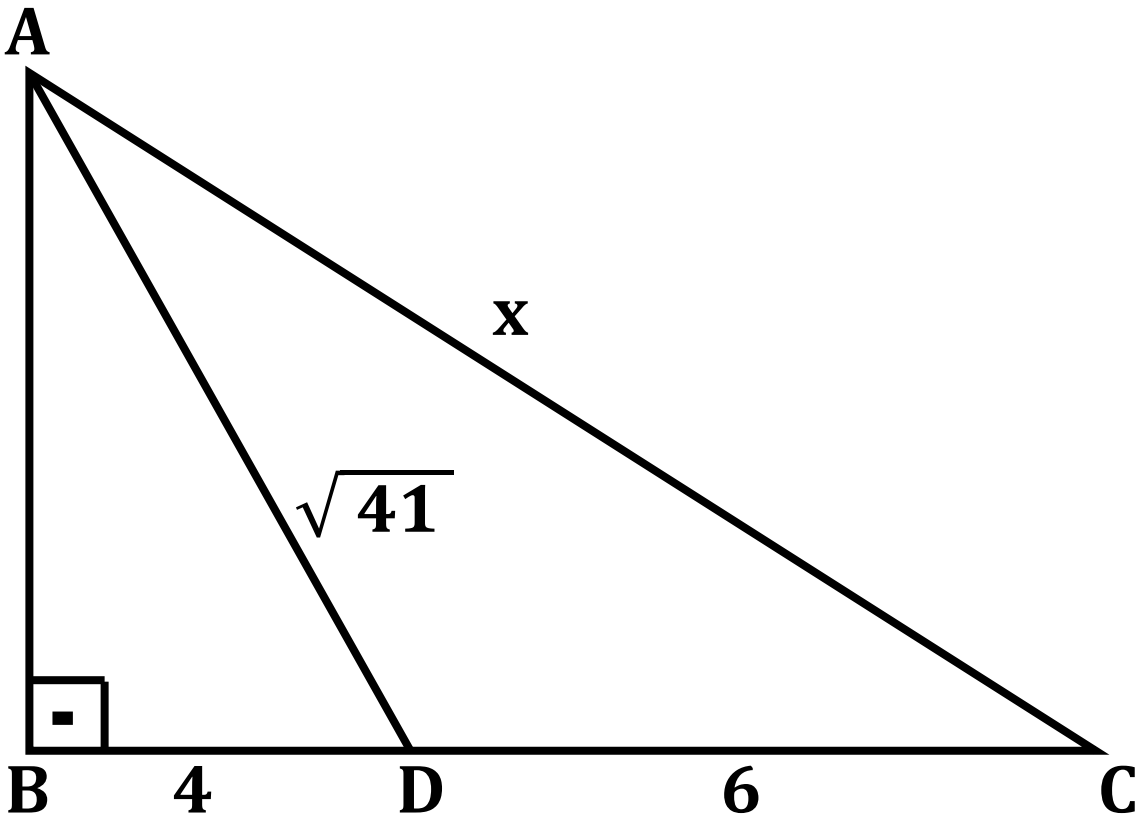
Soru :

x = ?



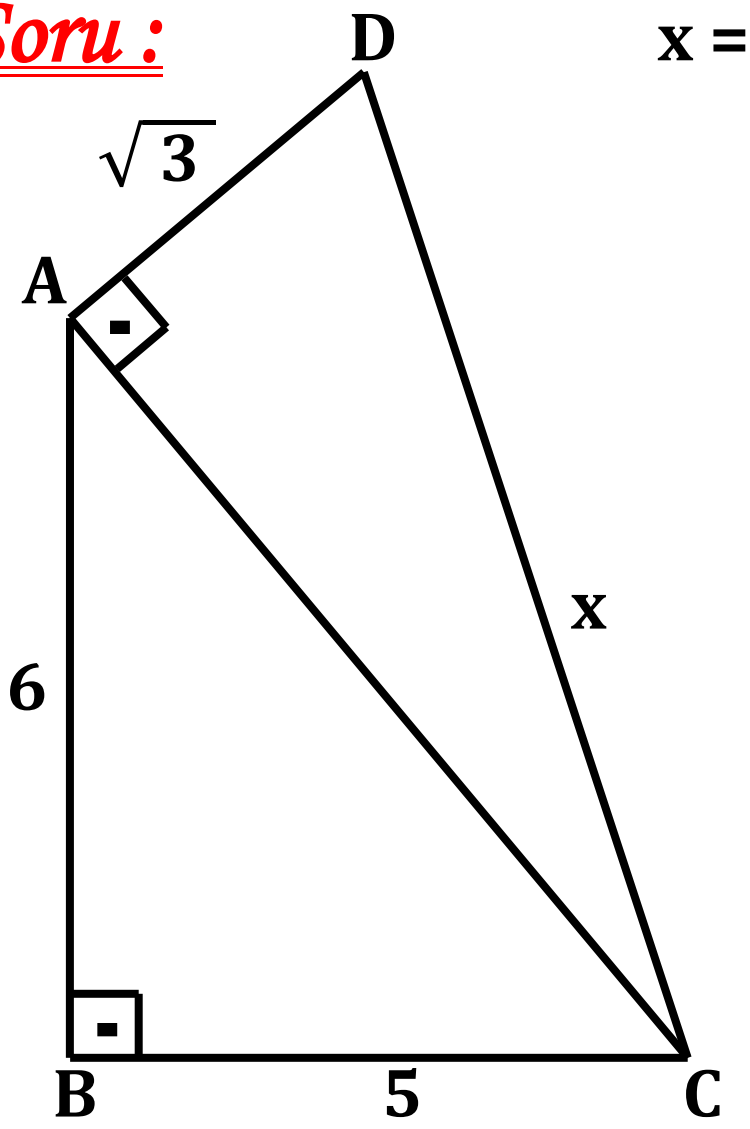
(A ile C 'yi birleştir. İki dik üçgenin birinden eksik parça bulunarak, istenen için çözüm üretilir.)

Soru : x = ?

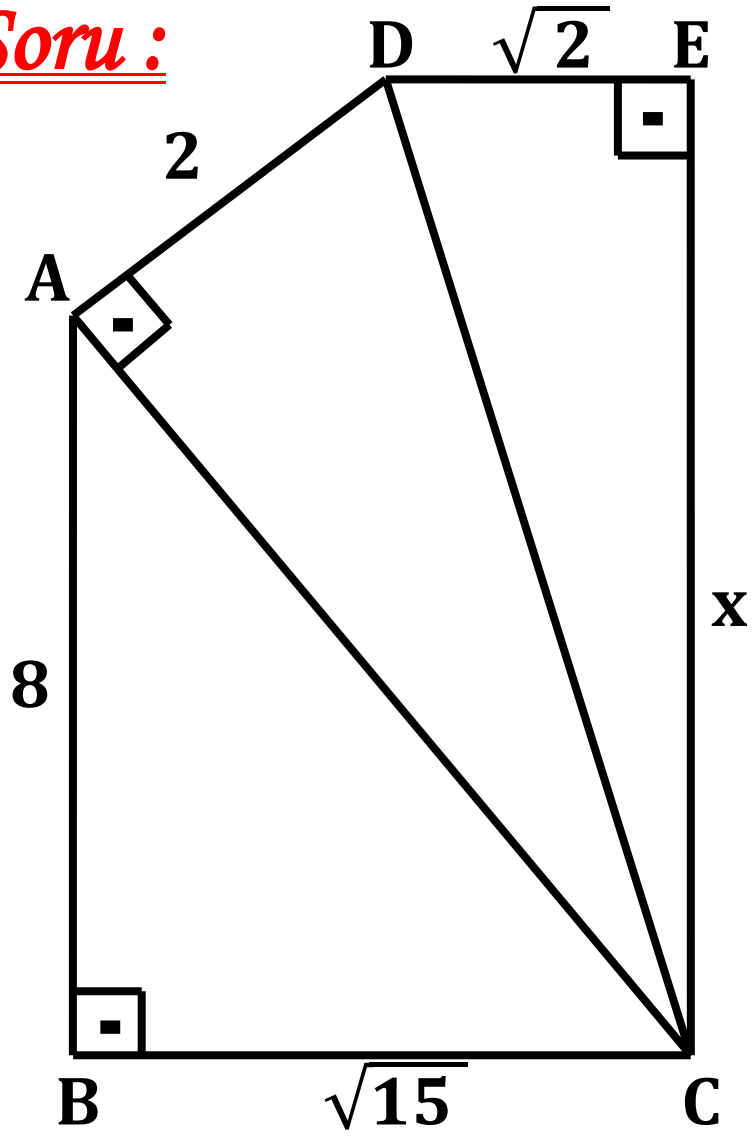


Soru :

x = ?

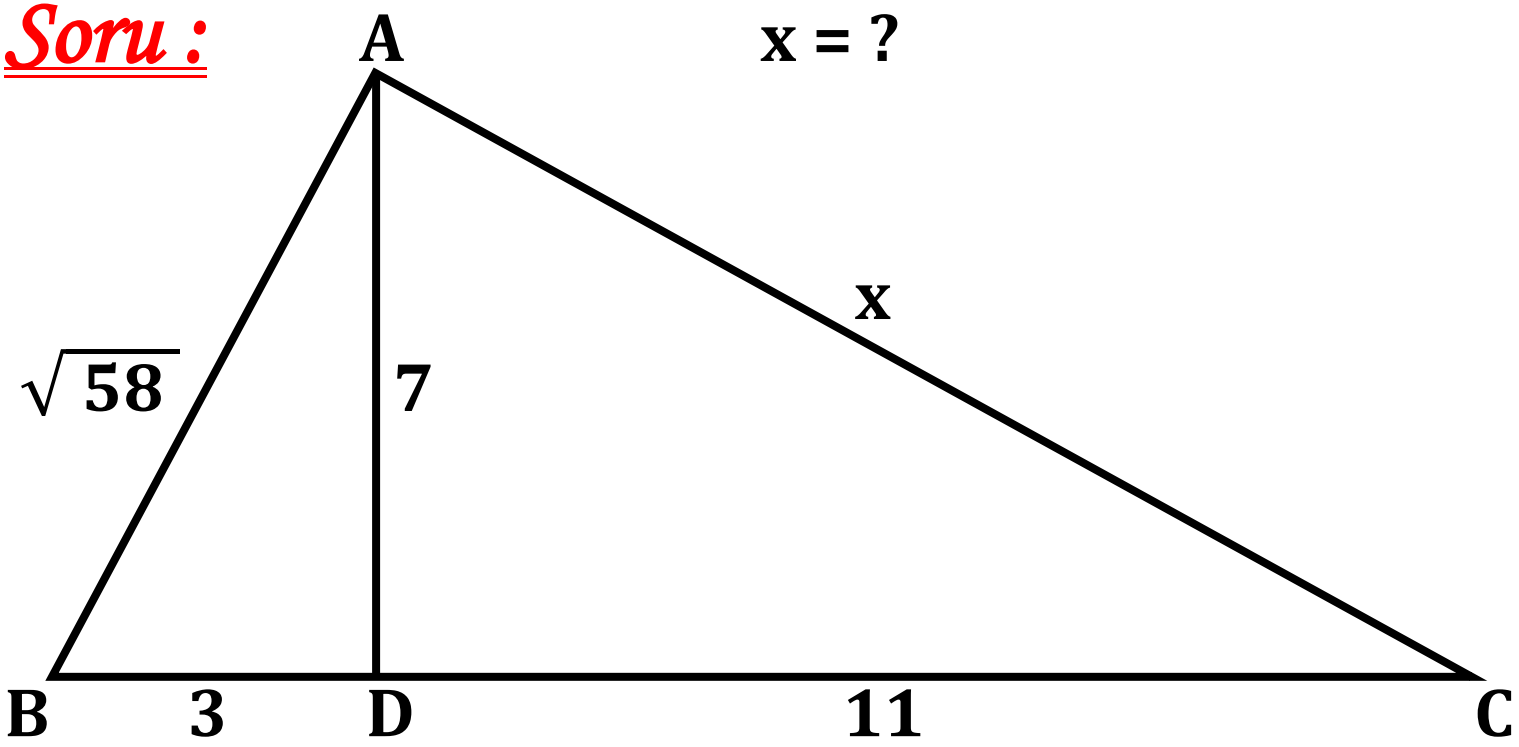


Soru :



x = ?

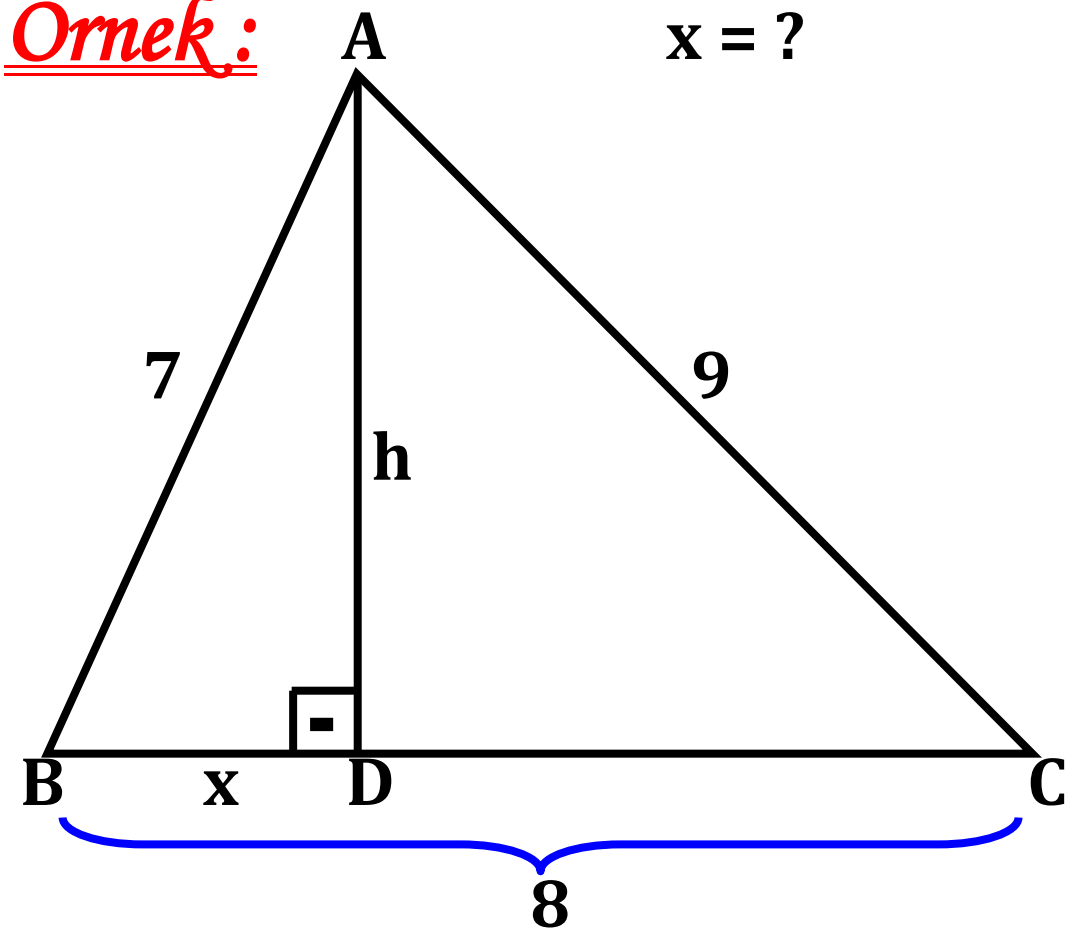
Soru :



(Kenar uzunlukları verilen üçgende hangi açının 90° olduğu bulunur. Sonra diğer üçgenden istenen bulunur.)

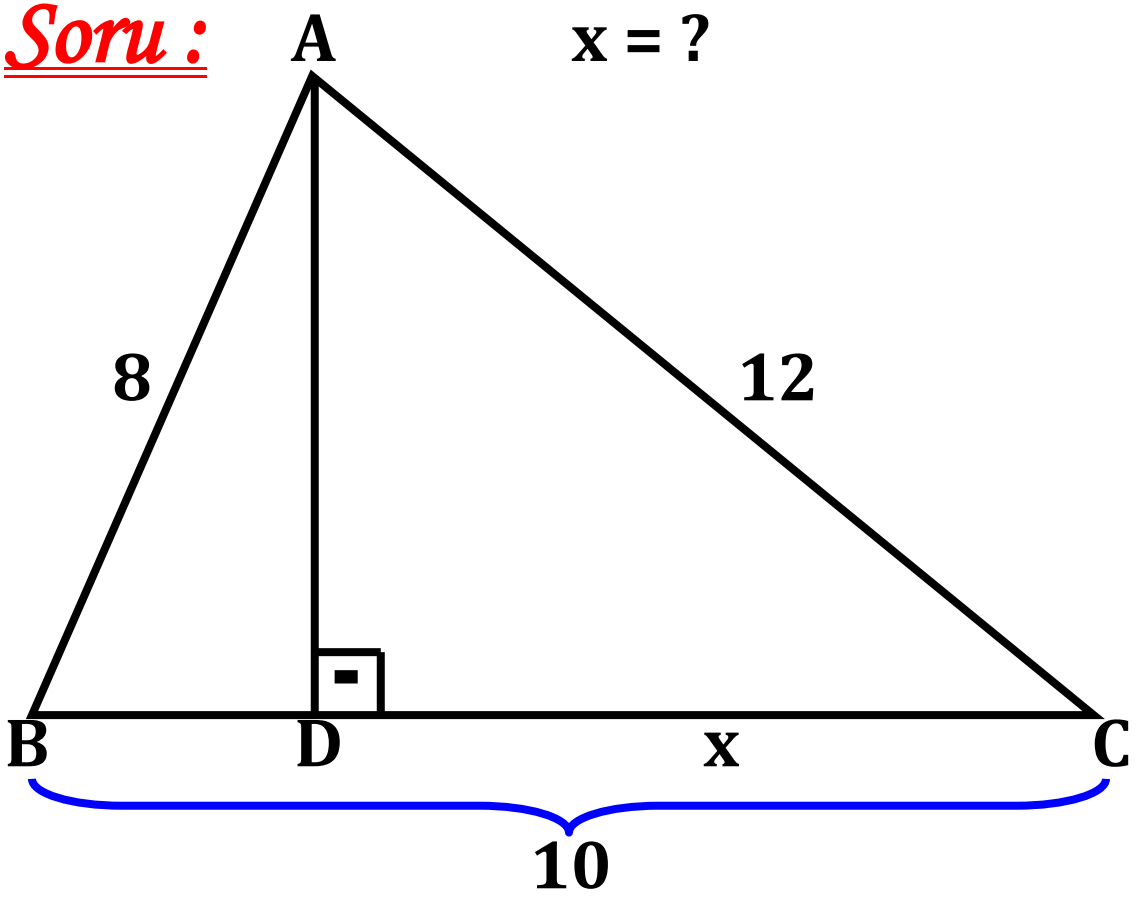
Örnek :

x = ?

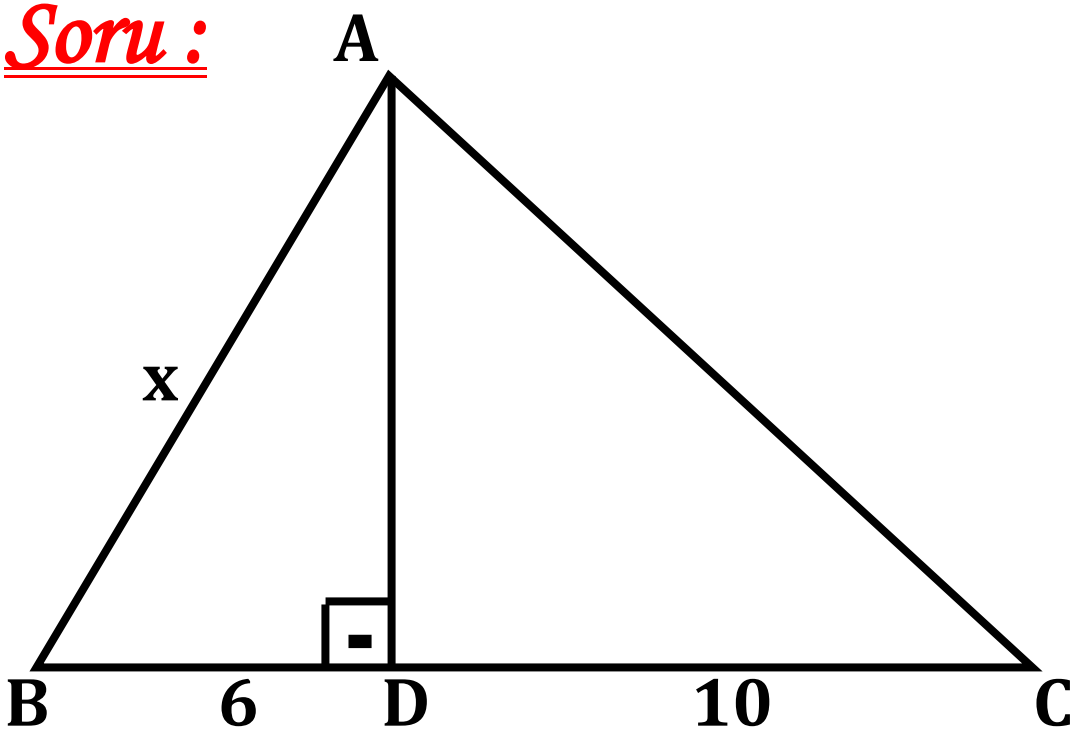


(İki dik üçgenden ortak olan grup kullanılarak çözüme gidilir.)

Soru : x = ?

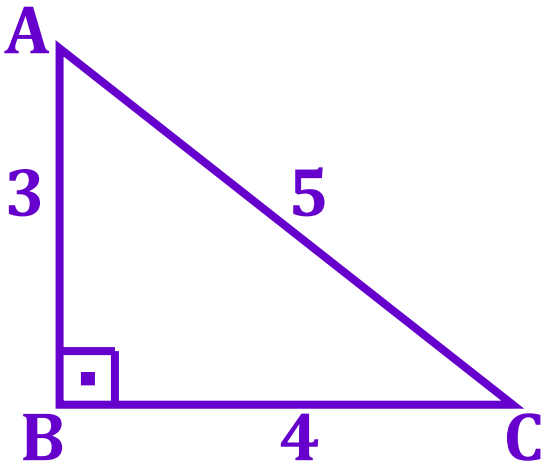


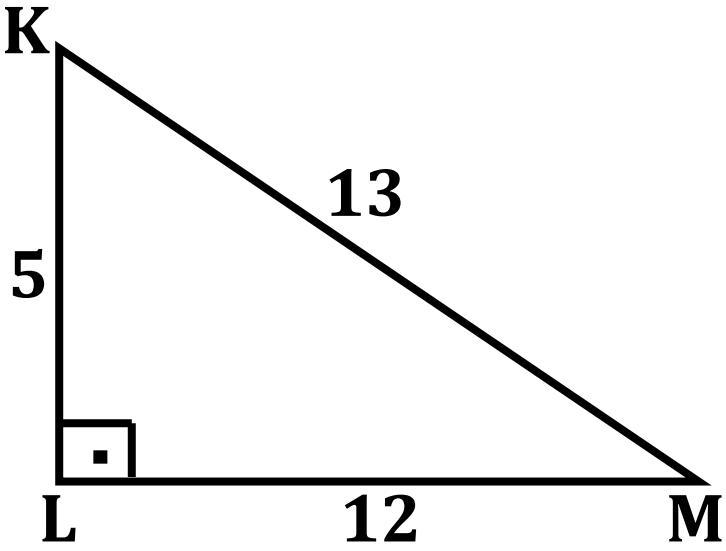
Soru :

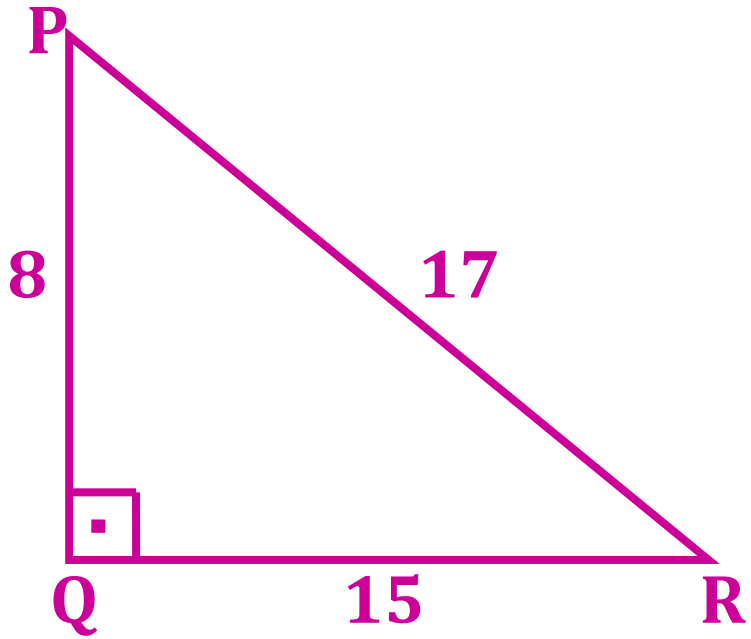


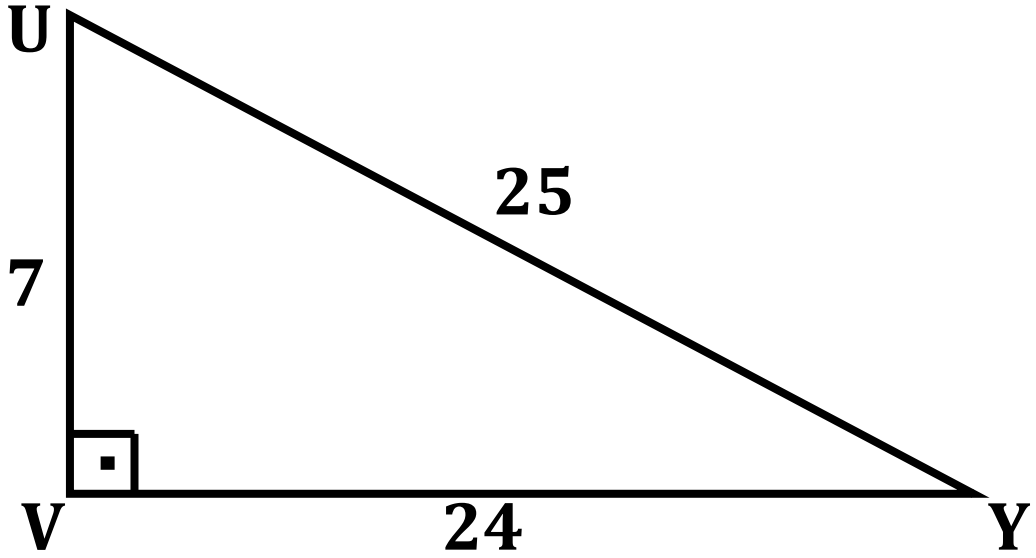
Ç (ABC) = 48 br x = ?

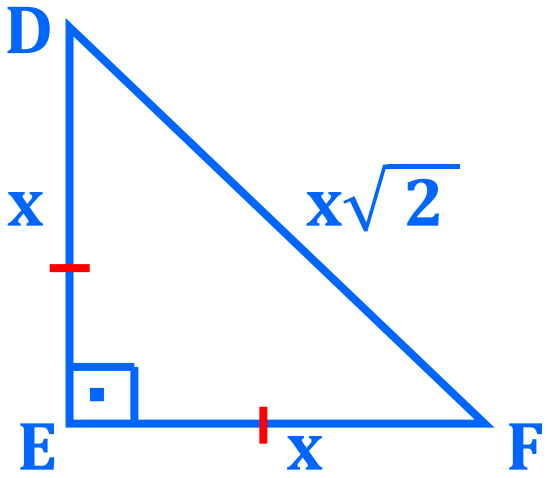
Özel Dik Üçgenler 1









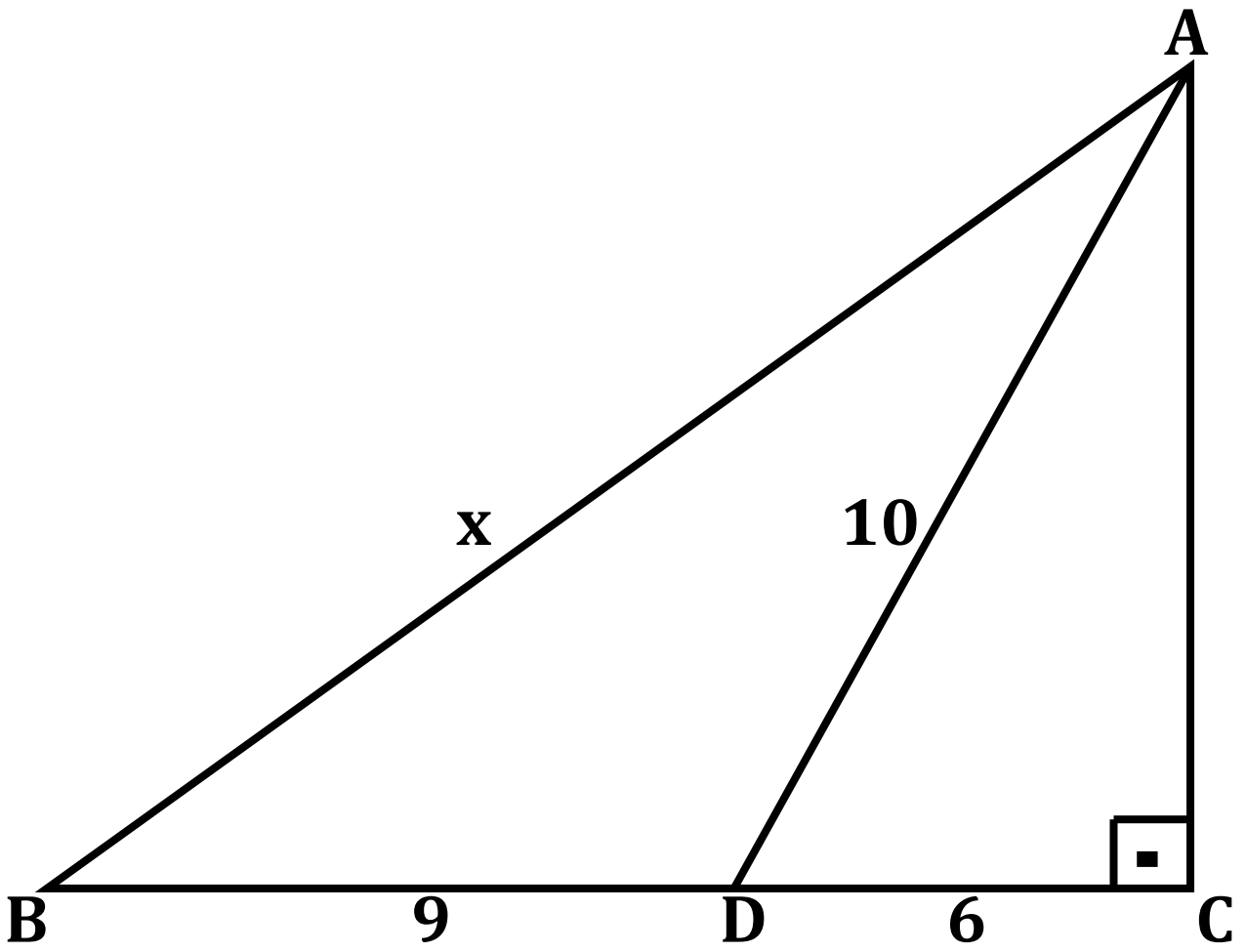


***** Bu verilen üçgenlerin katları da aynı özelliği sağlar.**

Özel üçgenleri kullanmak işlemleri hızlandırır.

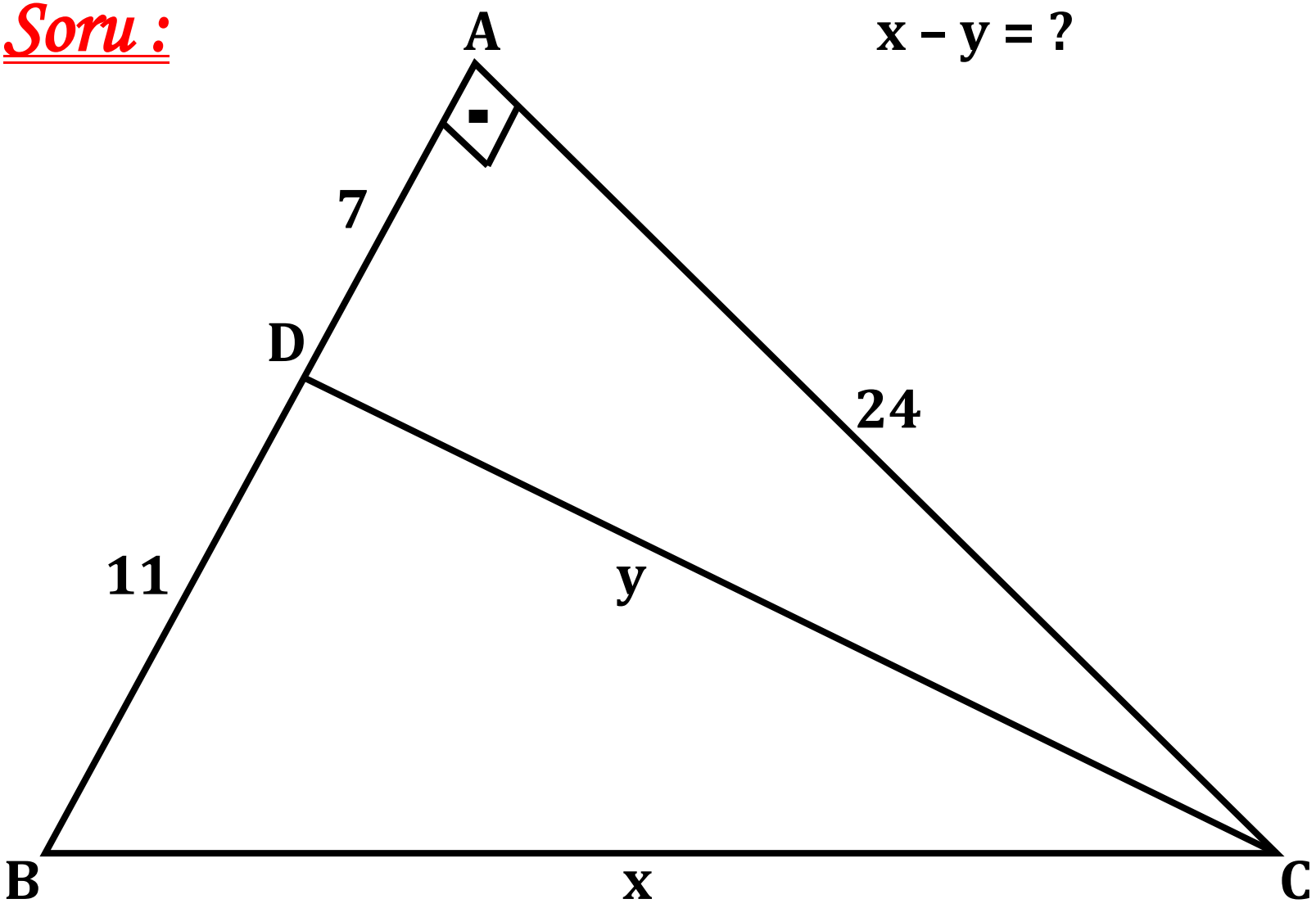
Örnek :

Verilenlere göre x = ?

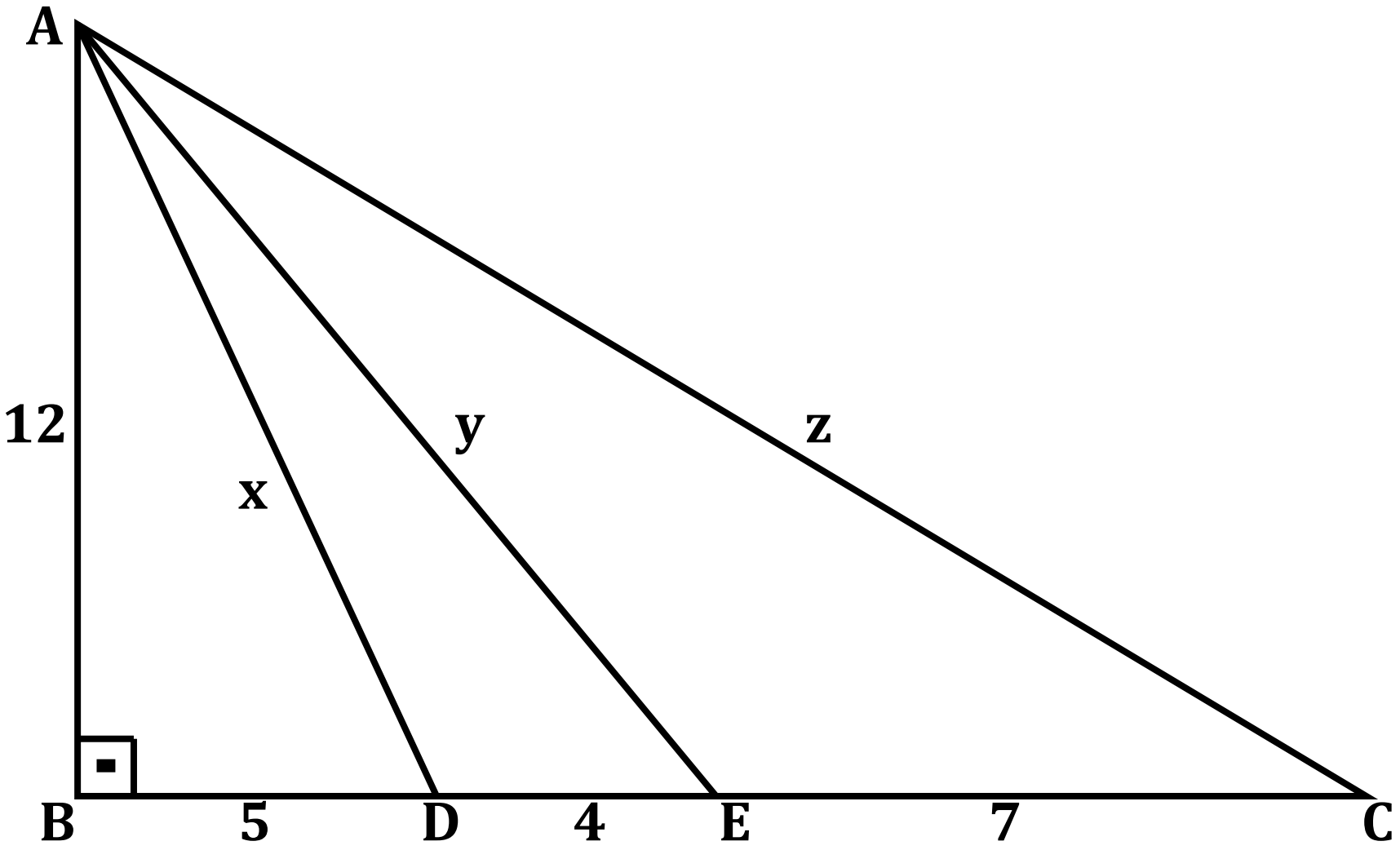


Soru :

x – y = ?

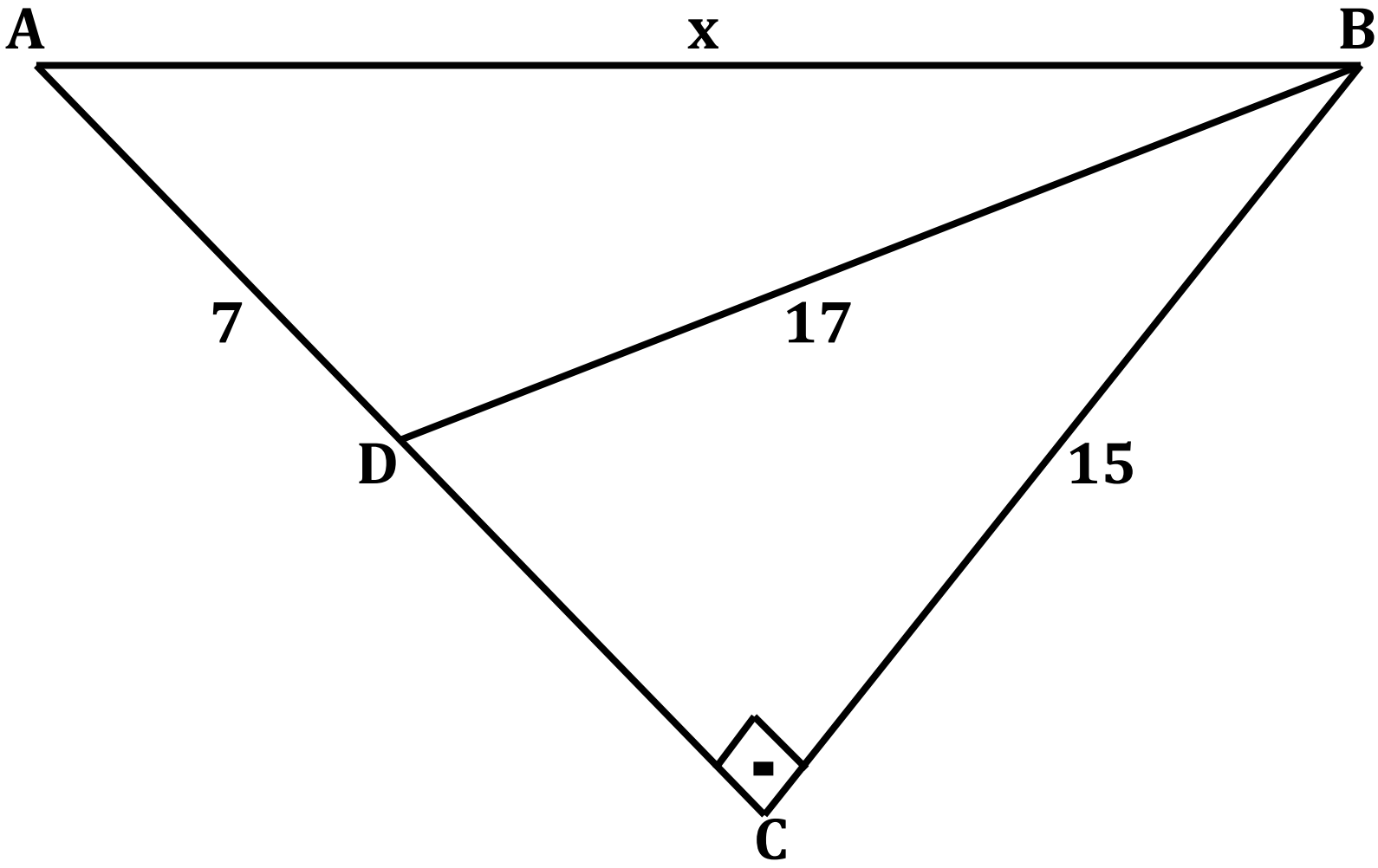


Soru : $x + y + z = ?$



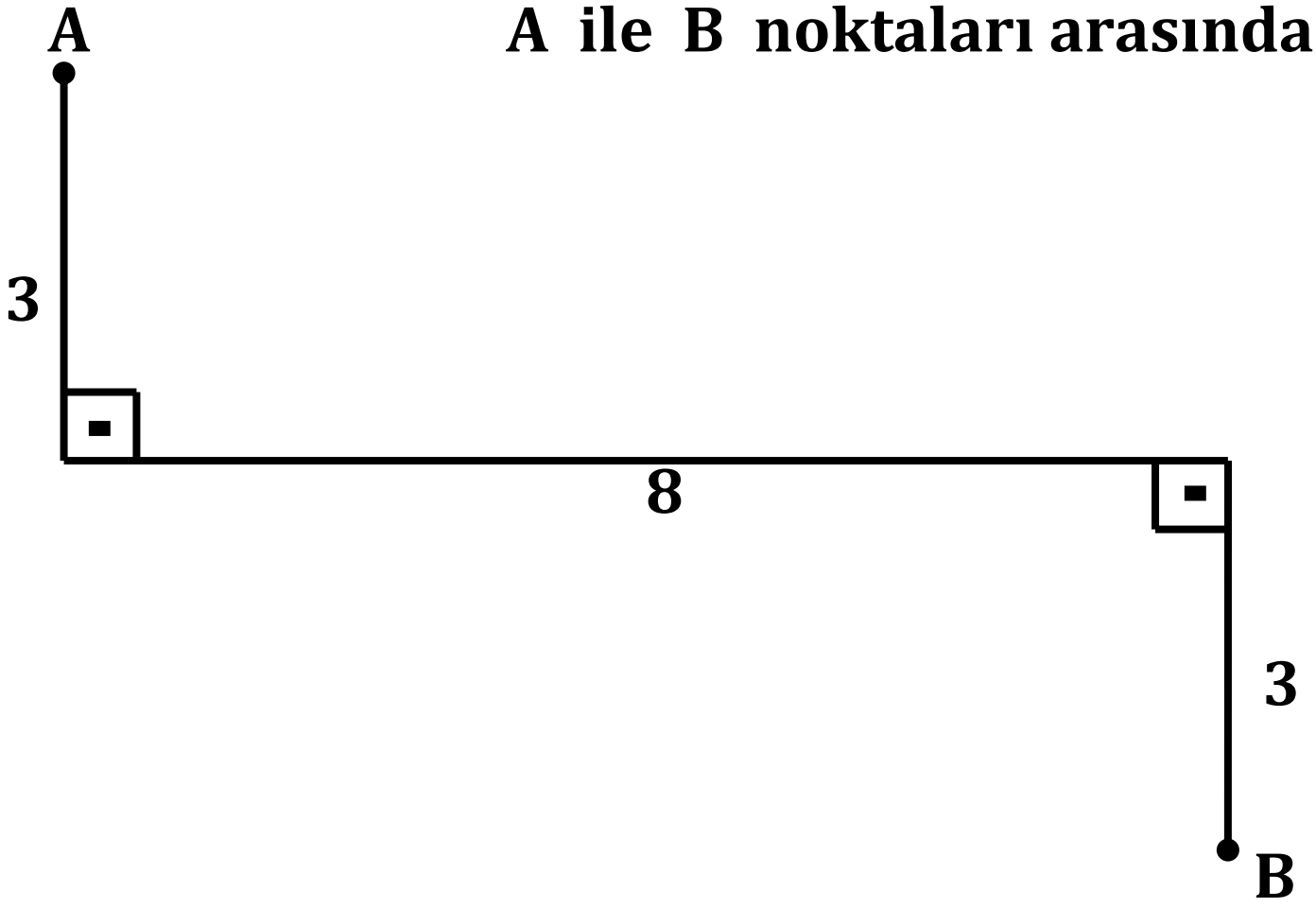
Soru :

x = ?



Soru :

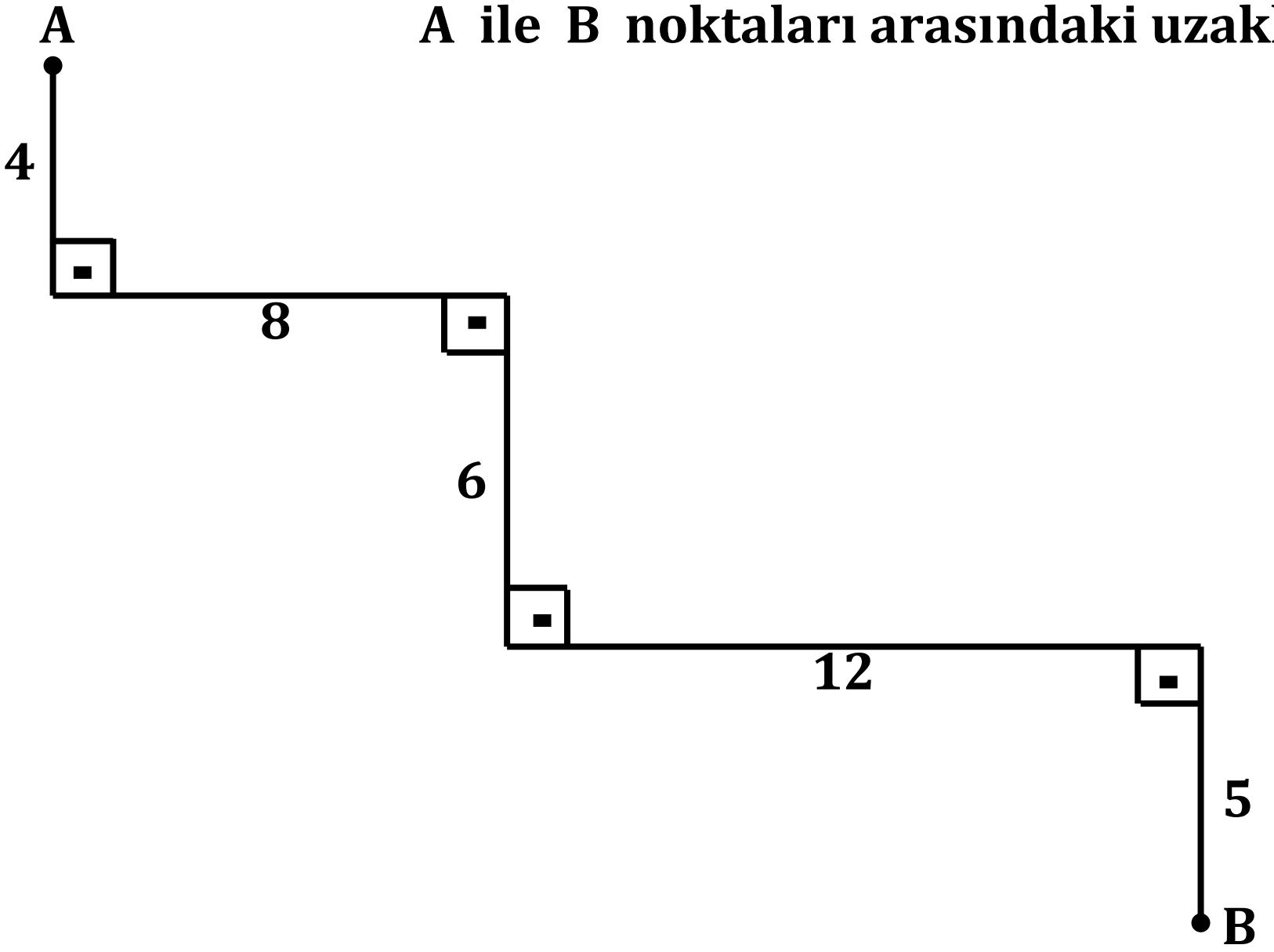
A ile B noktaları arasındaki uzaklığı bulunuz.



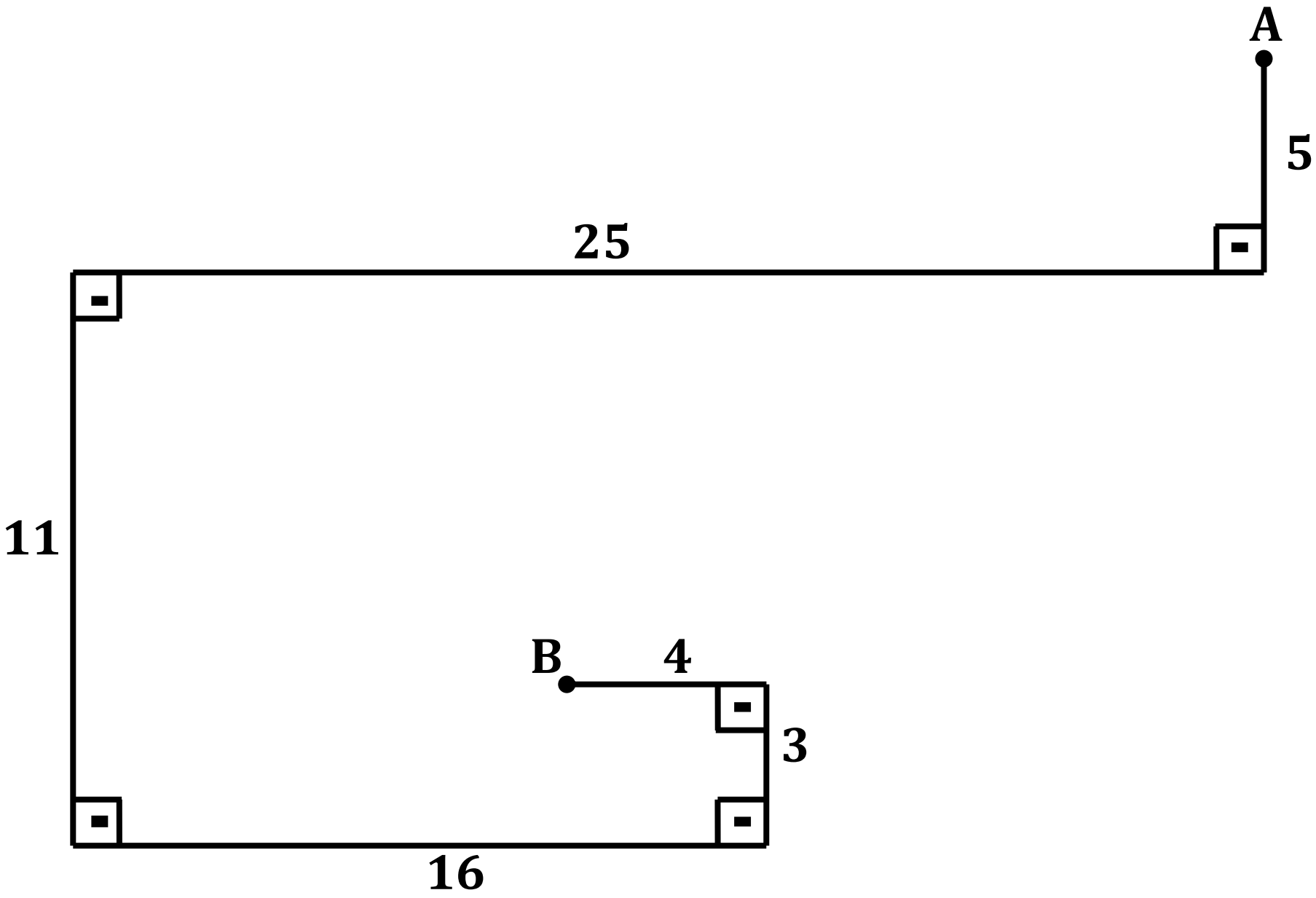
(A ile B noktaları birleştirilir. [AB] 'nin hipotenüs olduğu dik üçgen oluşturulur ve istenen bulunur.)

Soru :

A ile B noktaları arasındaki uzaklığı bulunuz.

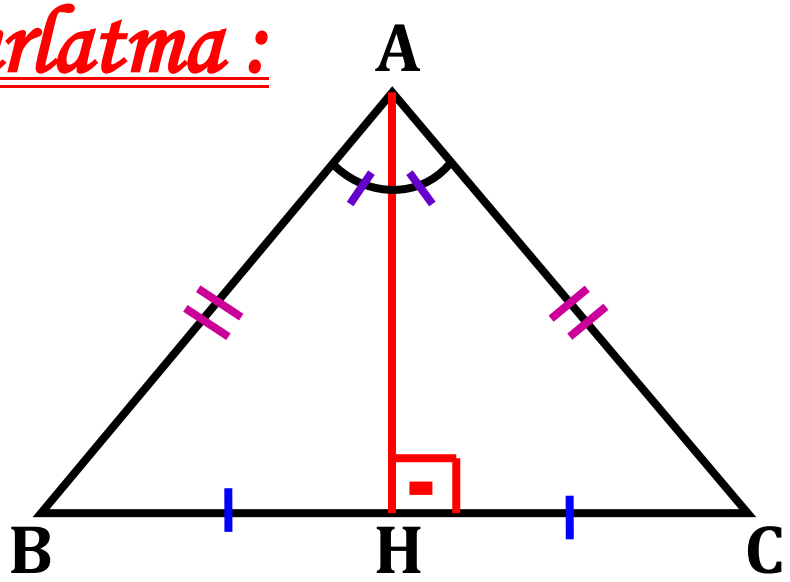


Soru :



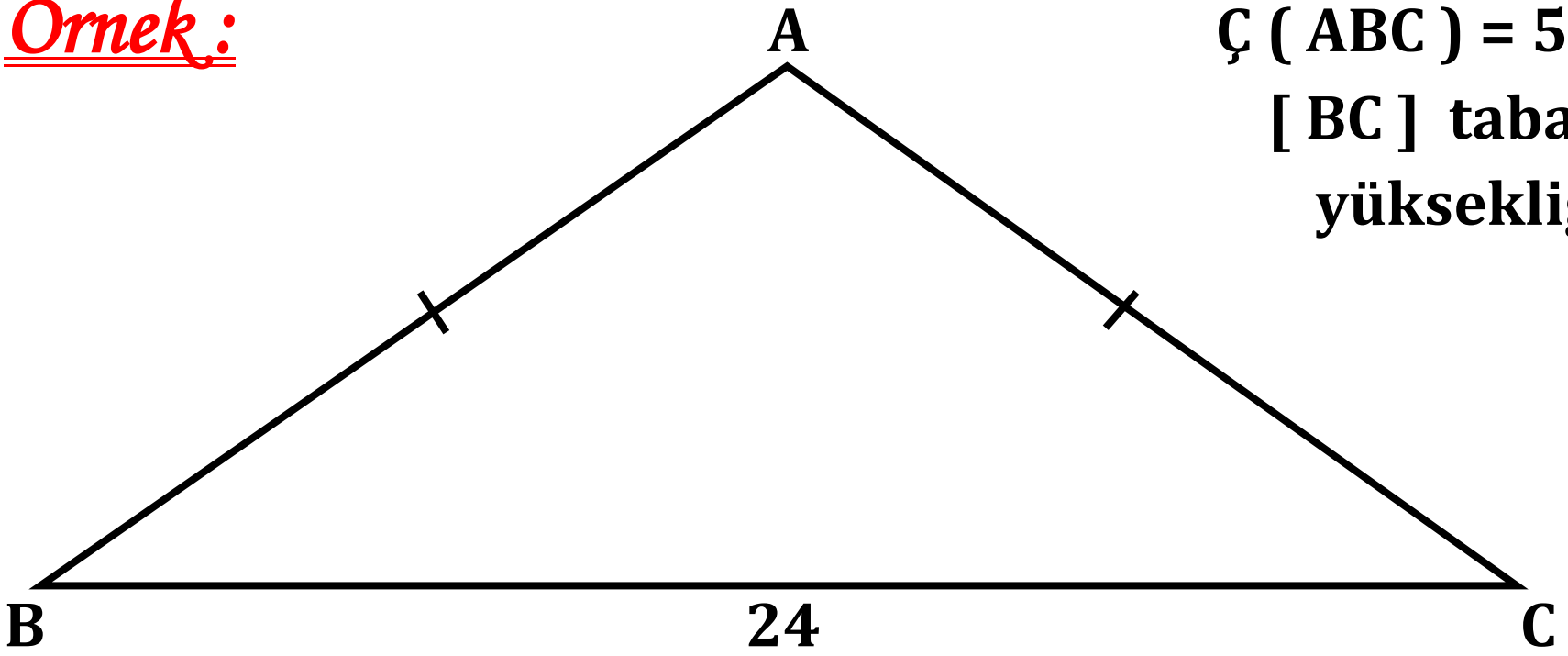
A ile B noktaları arasındaki uzaklığı bulunuz.

Hatırlatma :



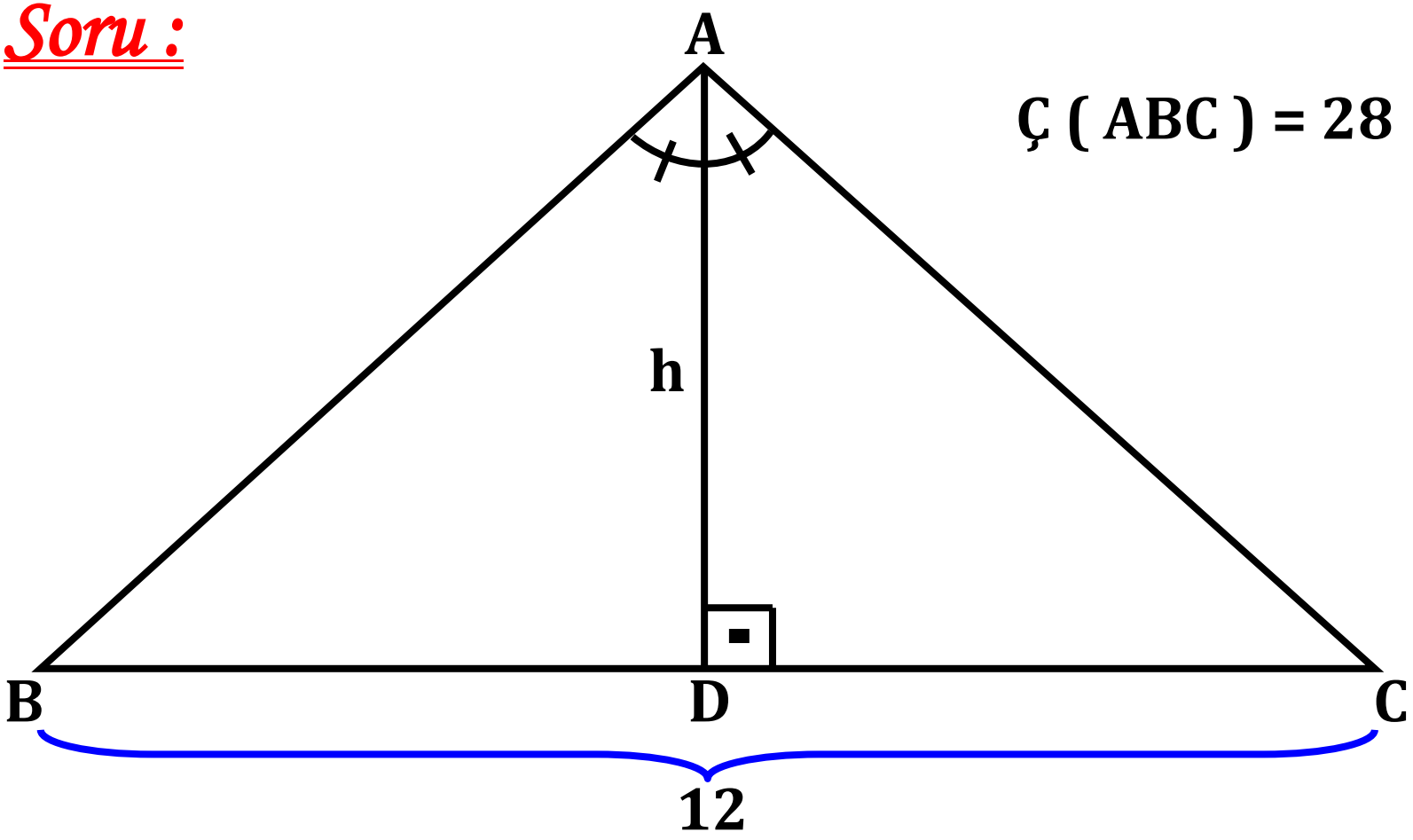
İkizkenar üçgende tabana ait yükseklik, hem kenarortay hem de açıortaydır.

Örnek :



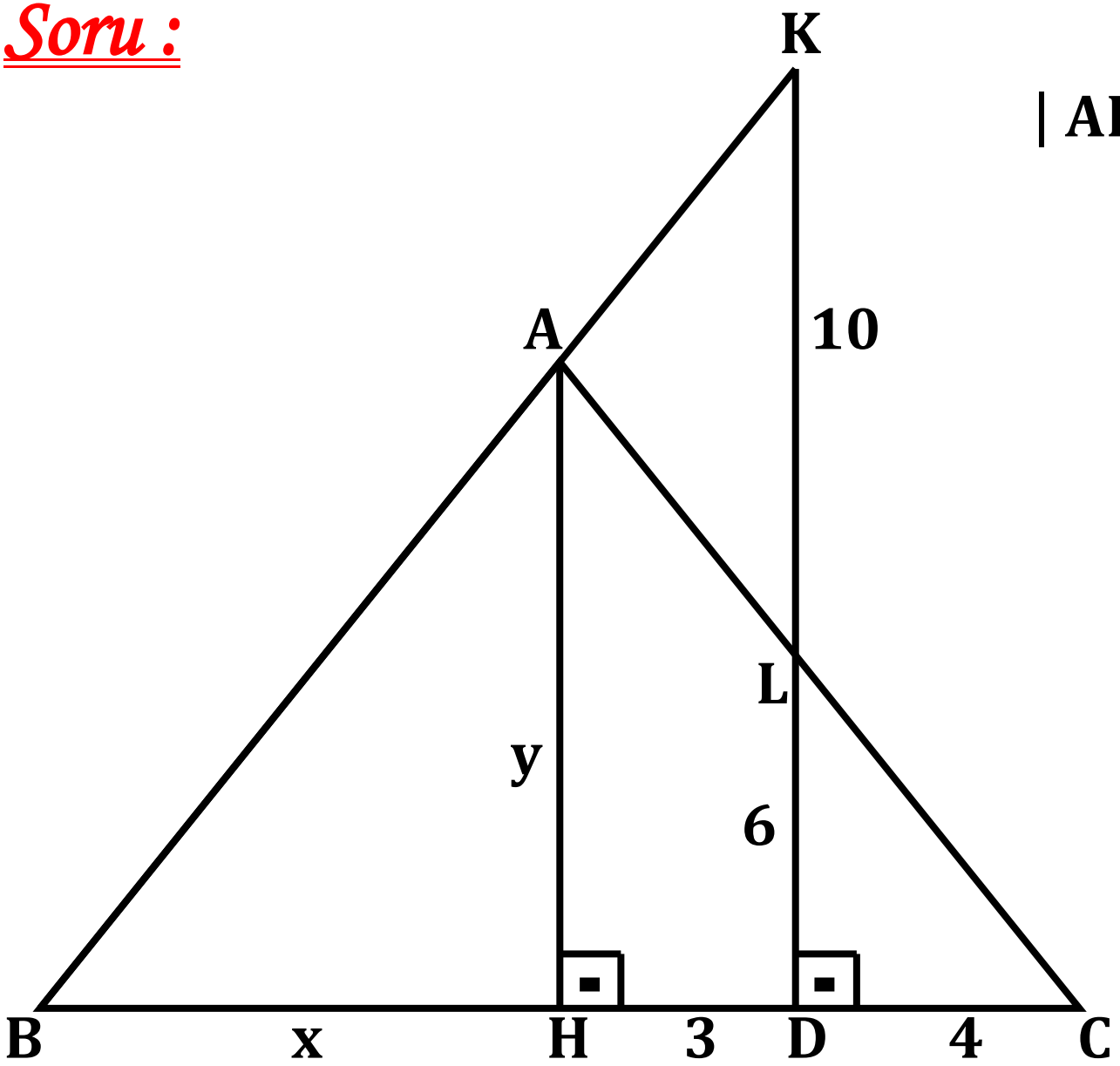
Ç (ABC) = 50 br ise [BC] tabanına ait yüksekliği bulunuz.

Soru :



Ç (ABC) = 28 br ise h = ?

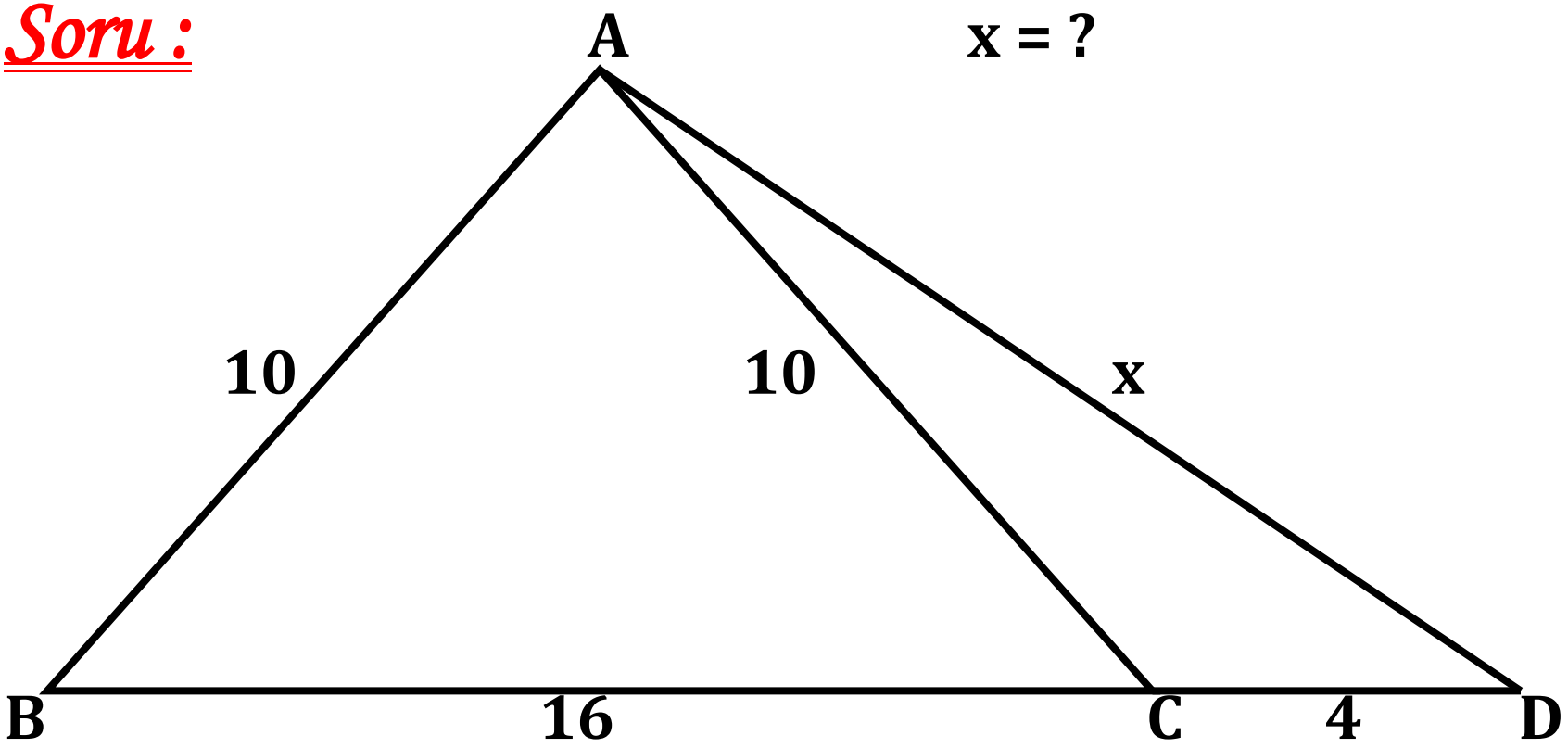
Soru :



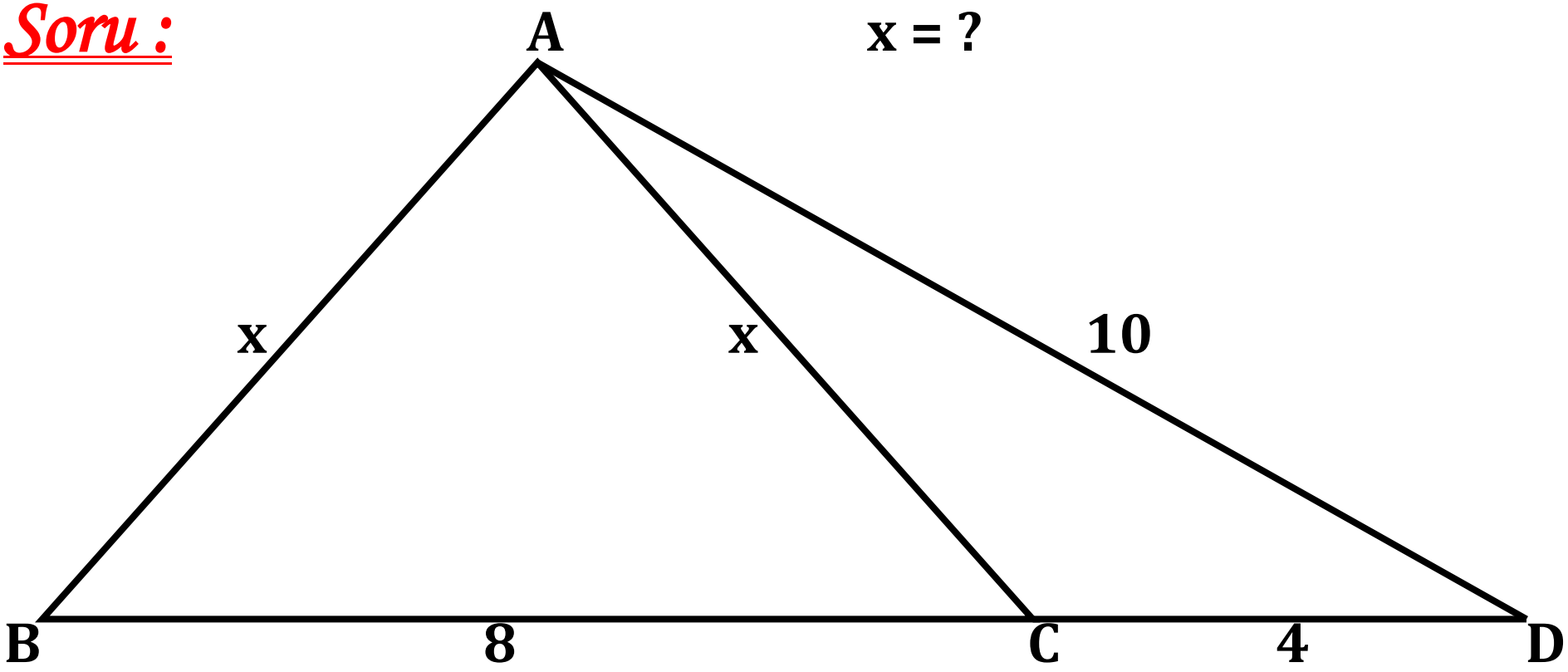
| AB | = | AC | ise x + y = ?

(A 'dan [KL] 'ye dik indir. Yöndeş açılar ve z kuralından çözü-me ulaşılır.)

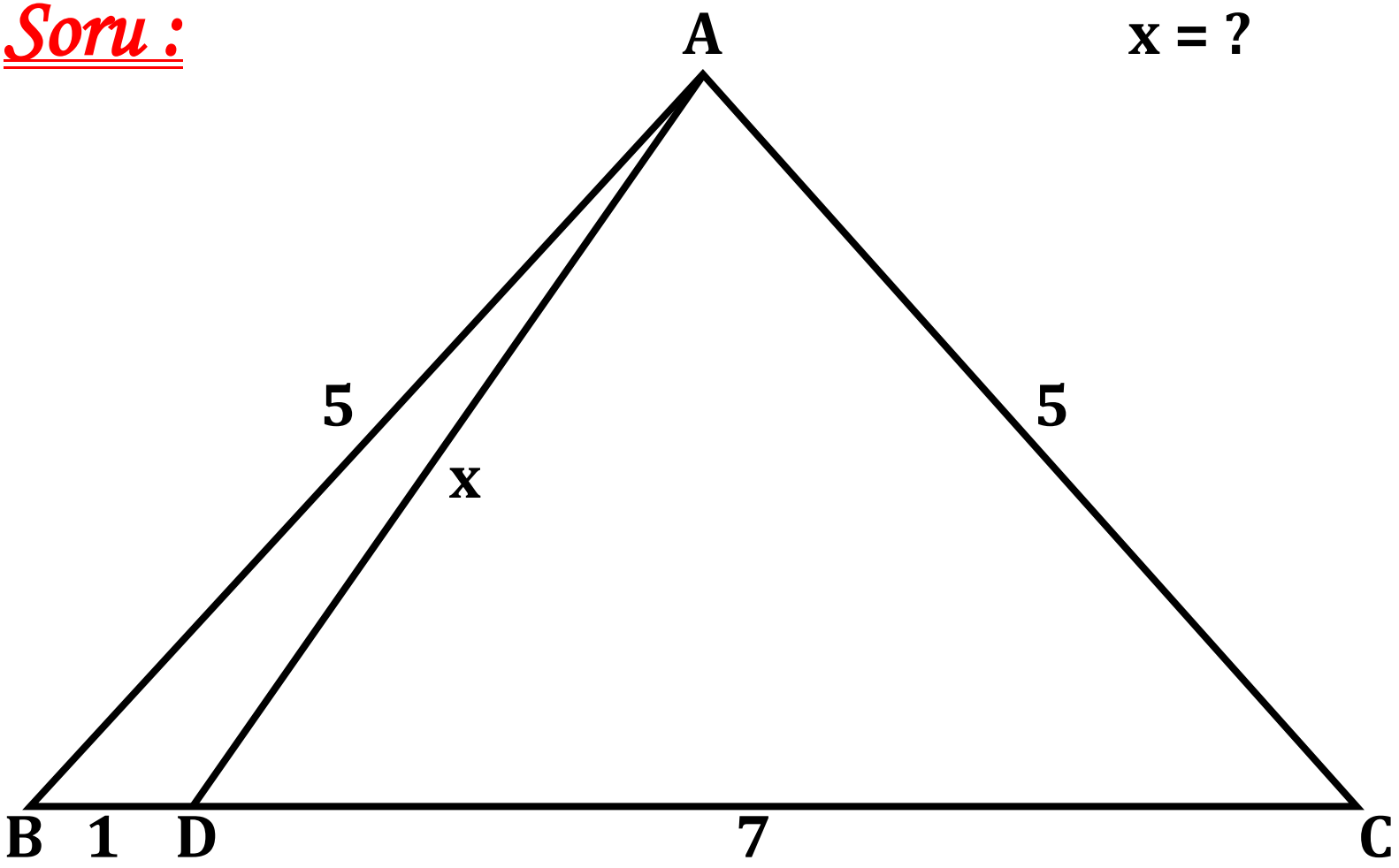
Soru :



Soru :

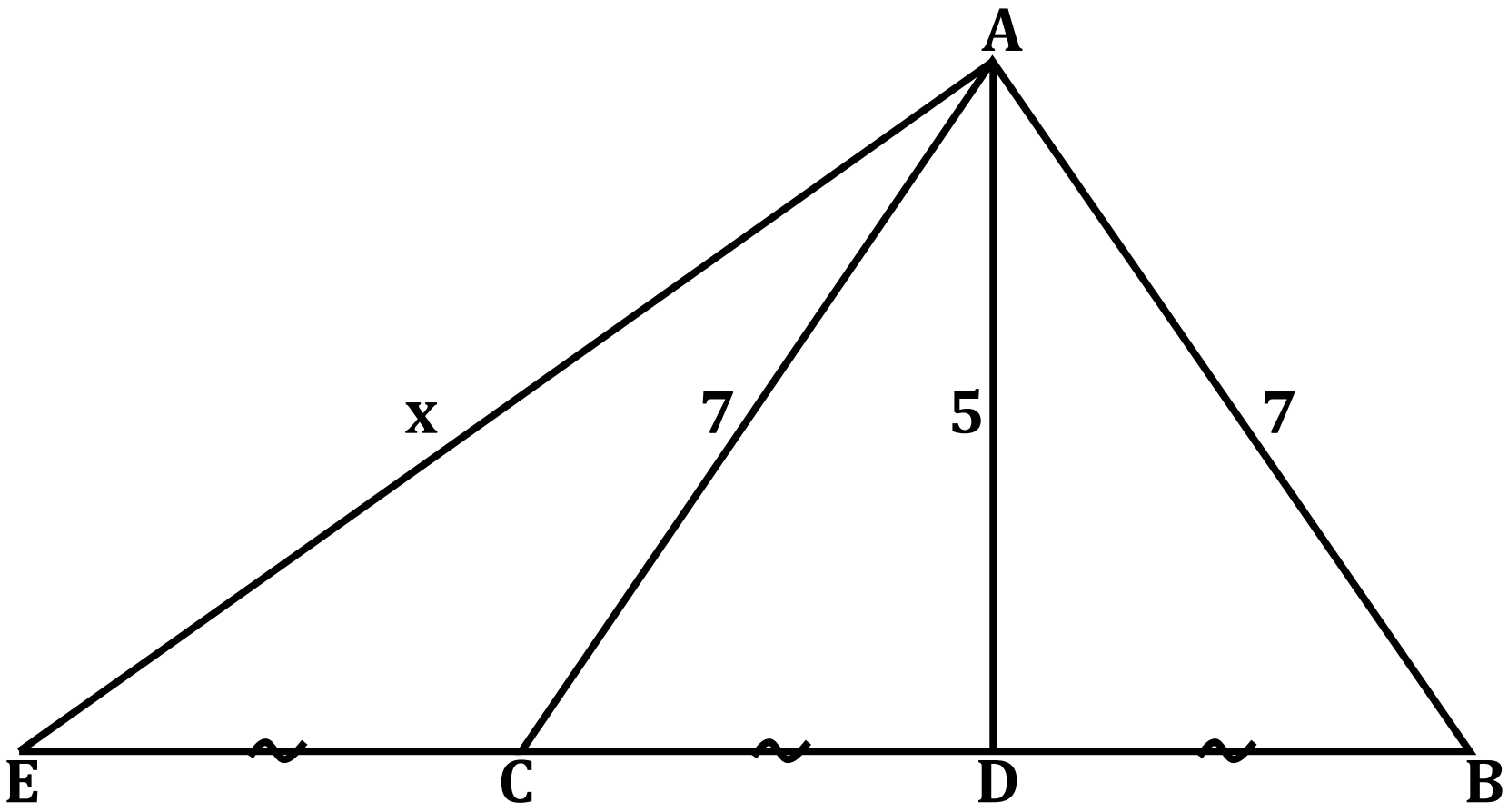


Soru :



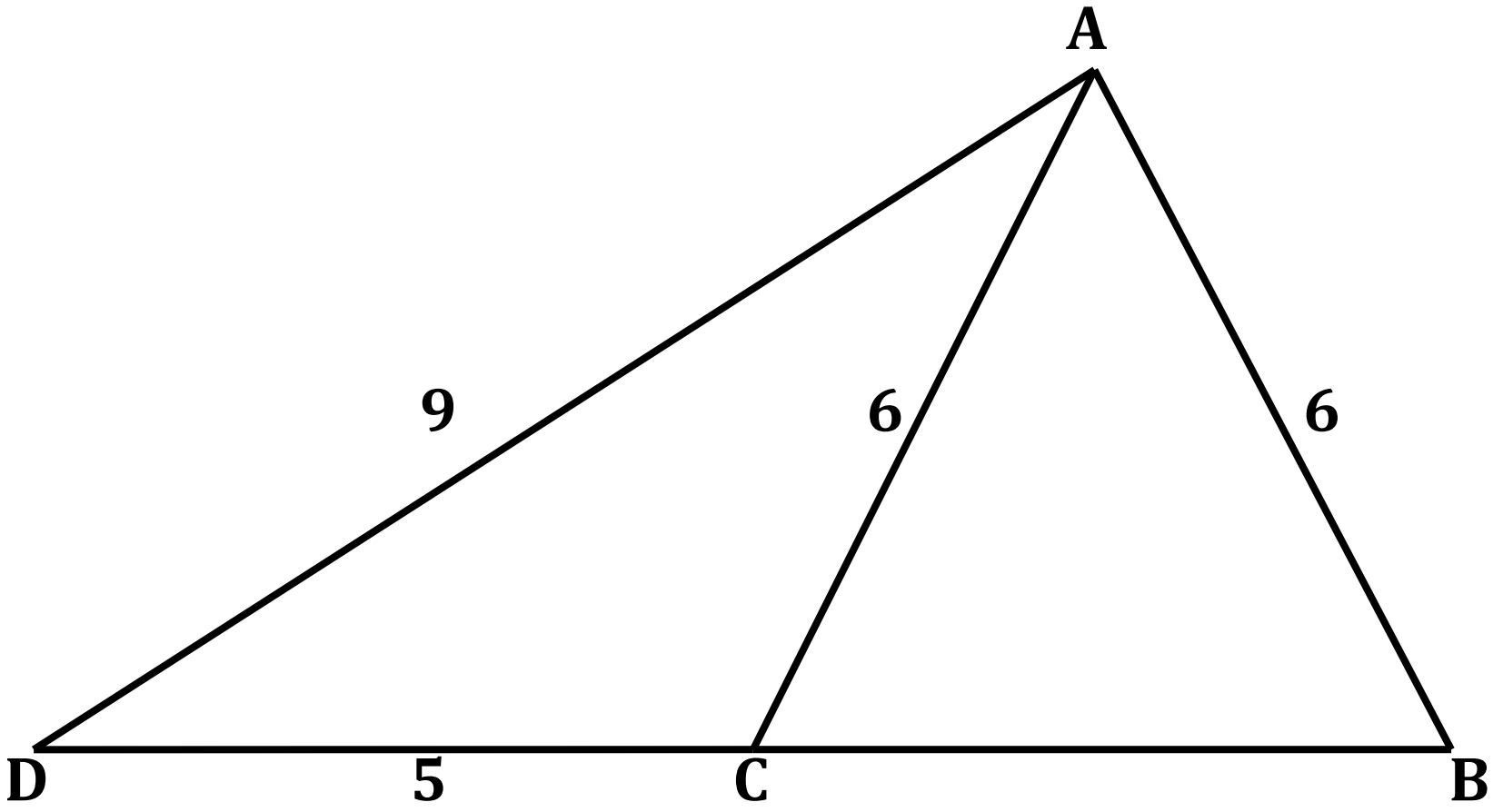
Soru :

x = ?



Soru :

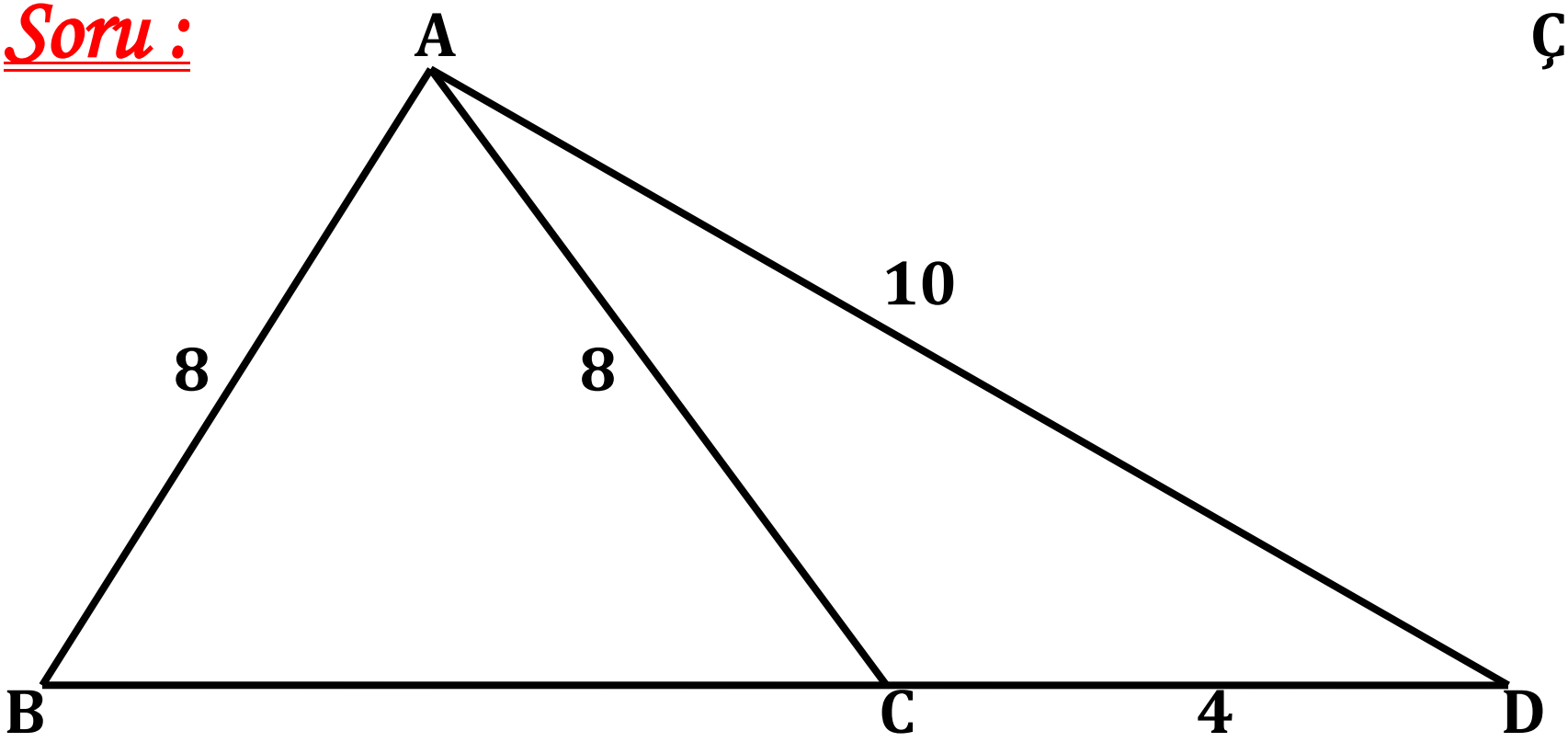
| CB | = ?



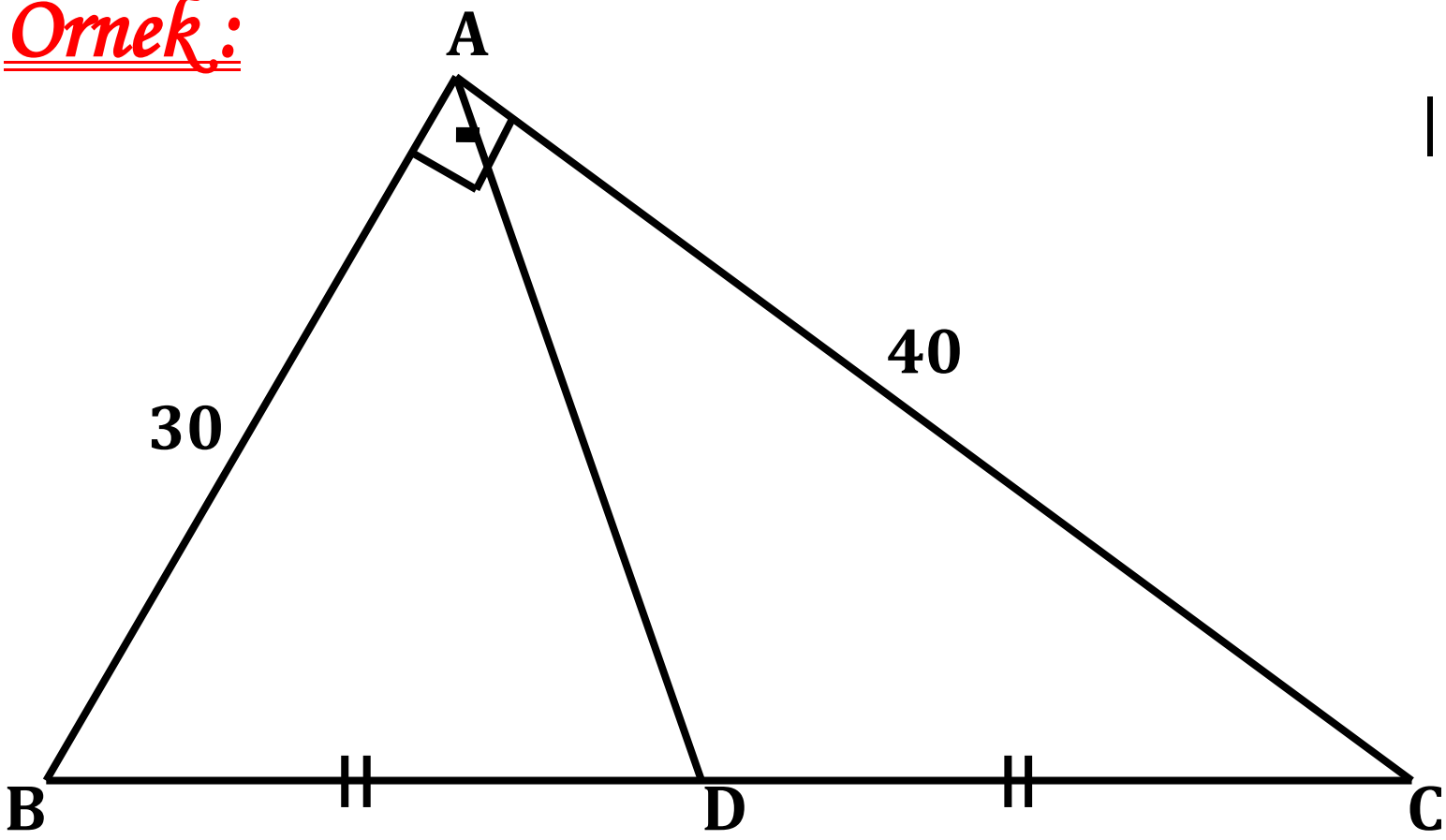
(A ’dan [BC] ’ye dik indir. Parçalara harf ver. İki farklı dik üç-genden ortak olan grup kullanılarak çözüme gidilir.)

Soru :

Ç (ABD) = ?



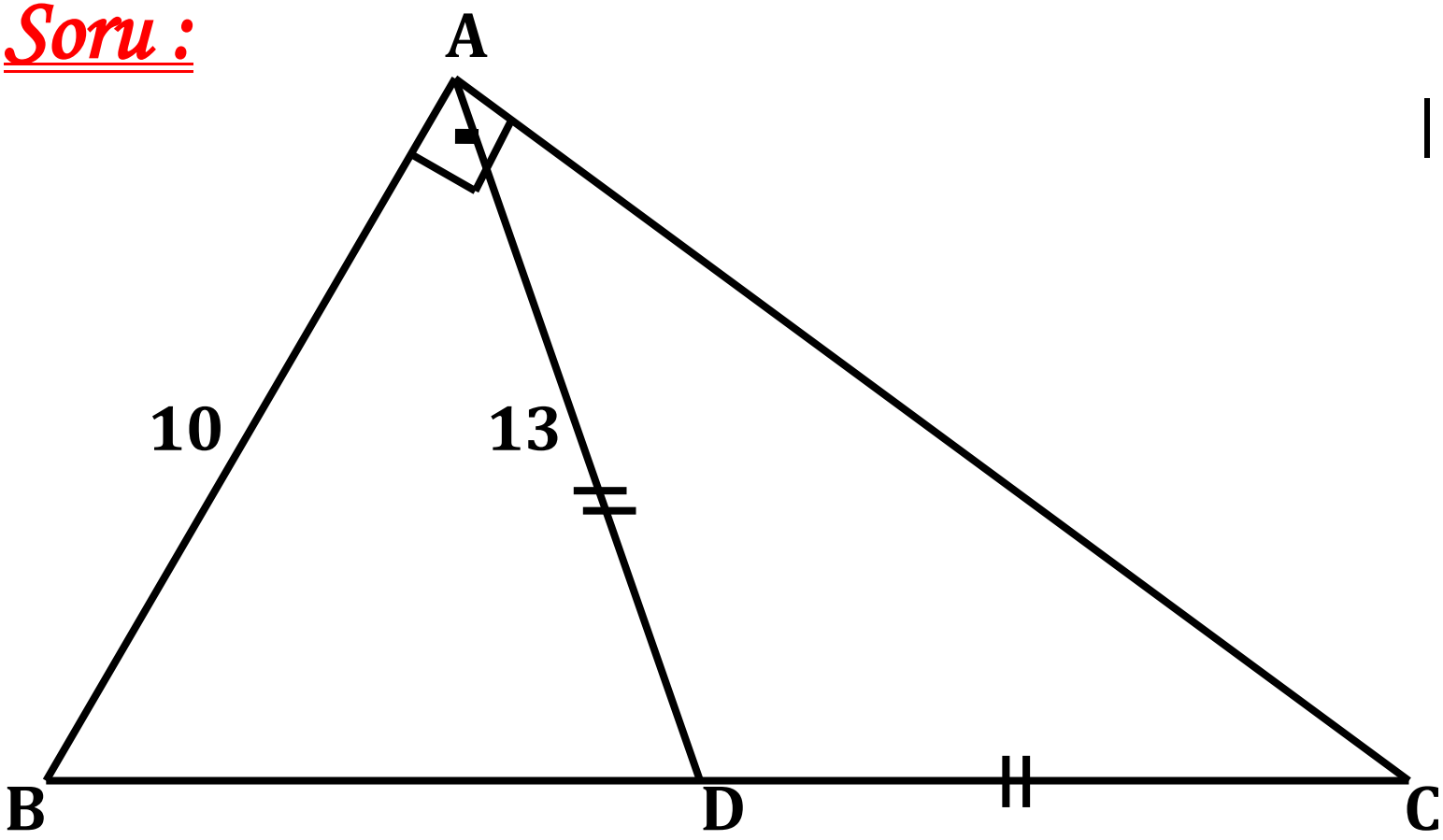
Örnek :



| AD | = ?

(Bu tarz sorularda muhteşem üçlüden ve varsa ağırlık merkezi kuralından faydalanılır.)

Soru :

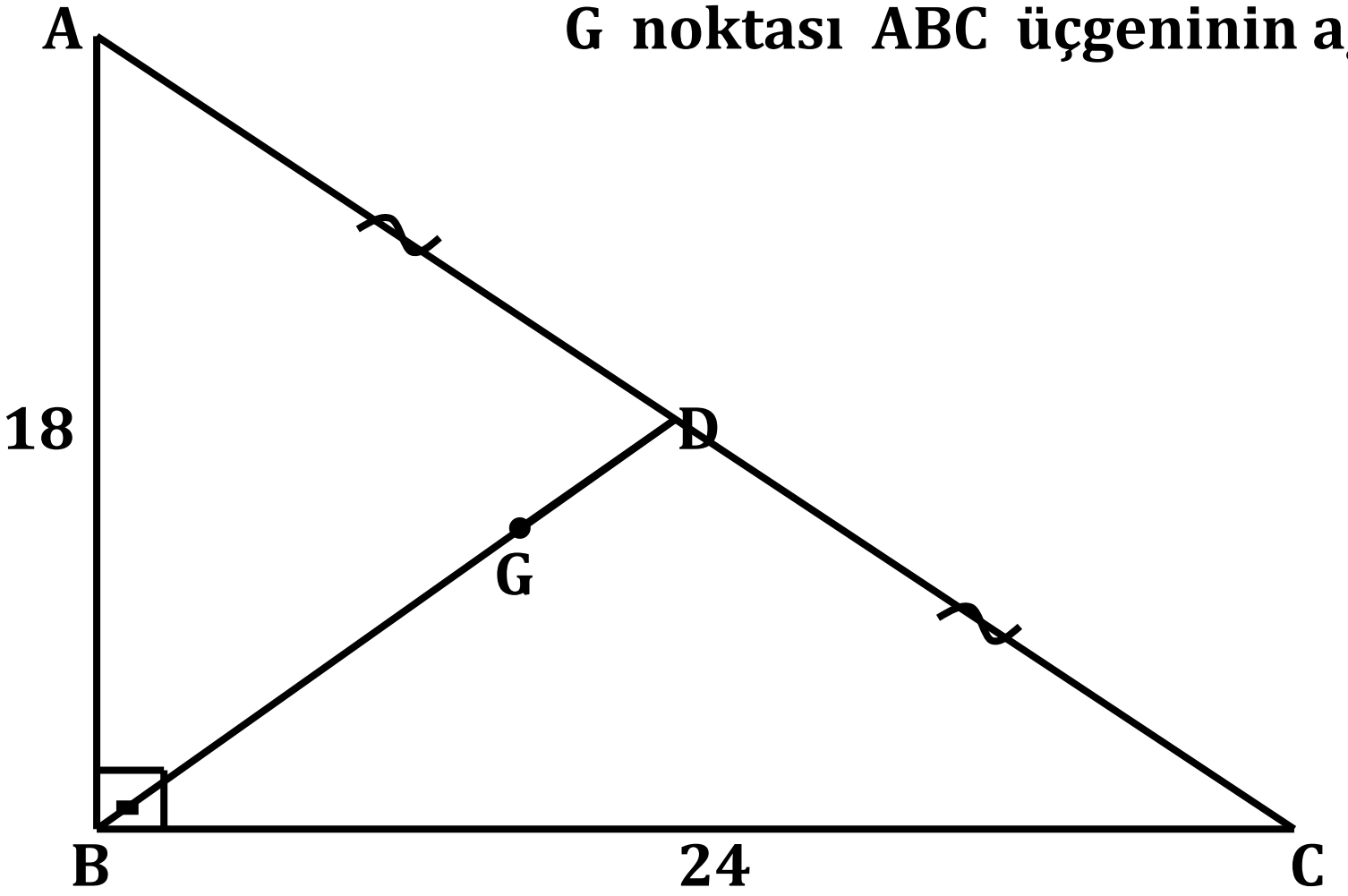


| AC | = ?

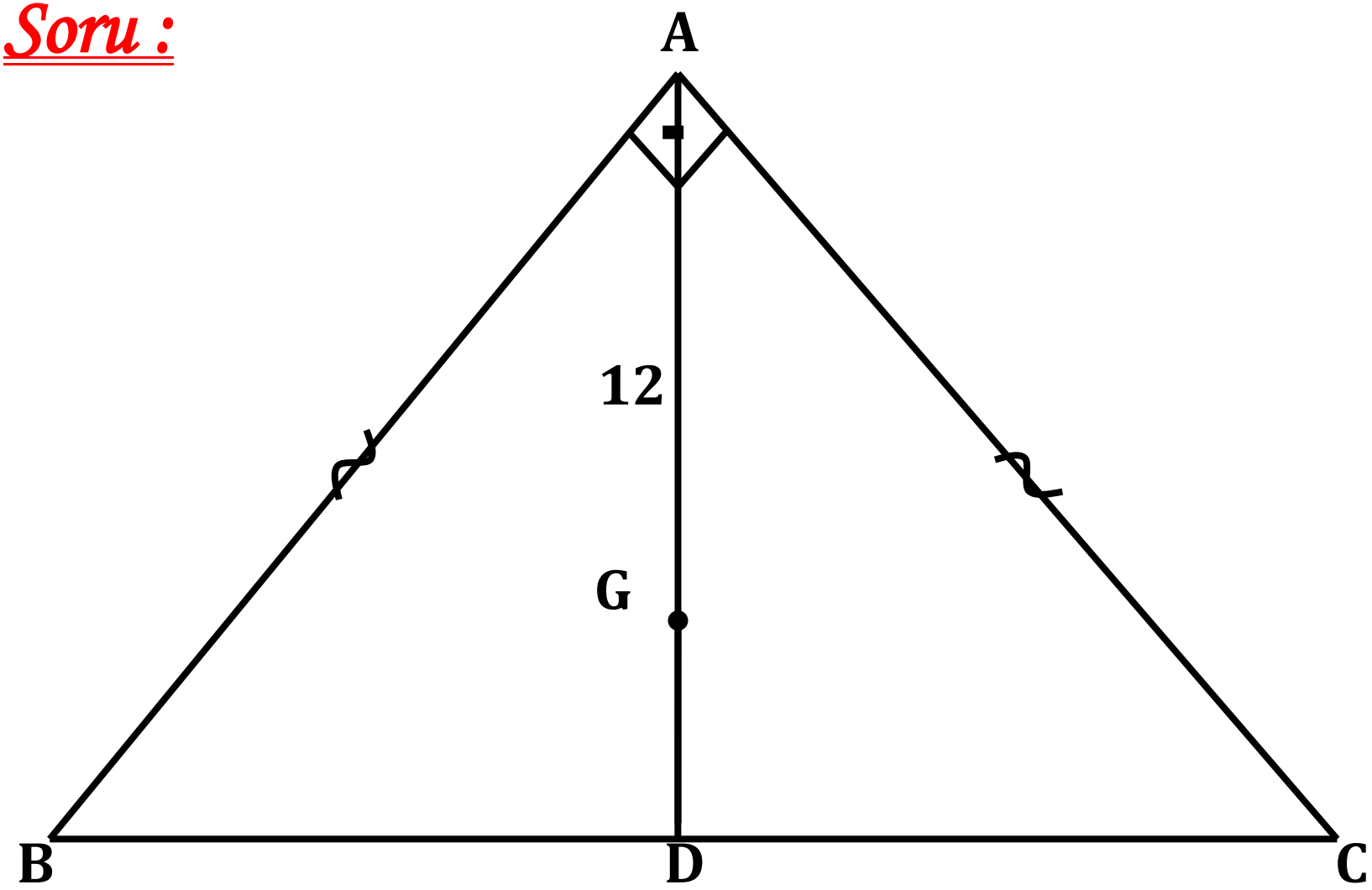
Soru :

G noktası ABC üçgeninin ağırlık merkezi ise

| GD | = ?



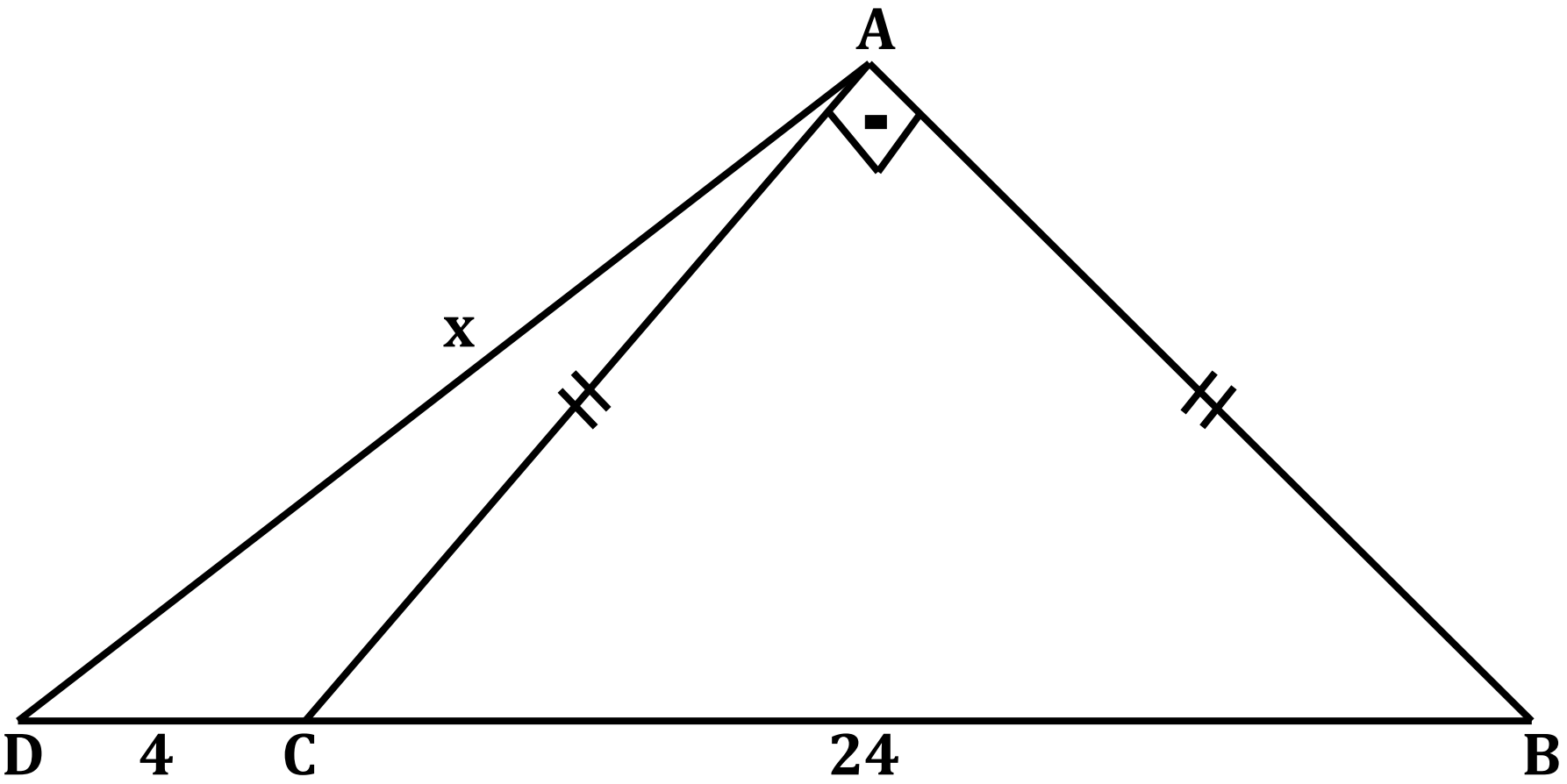
Soru :



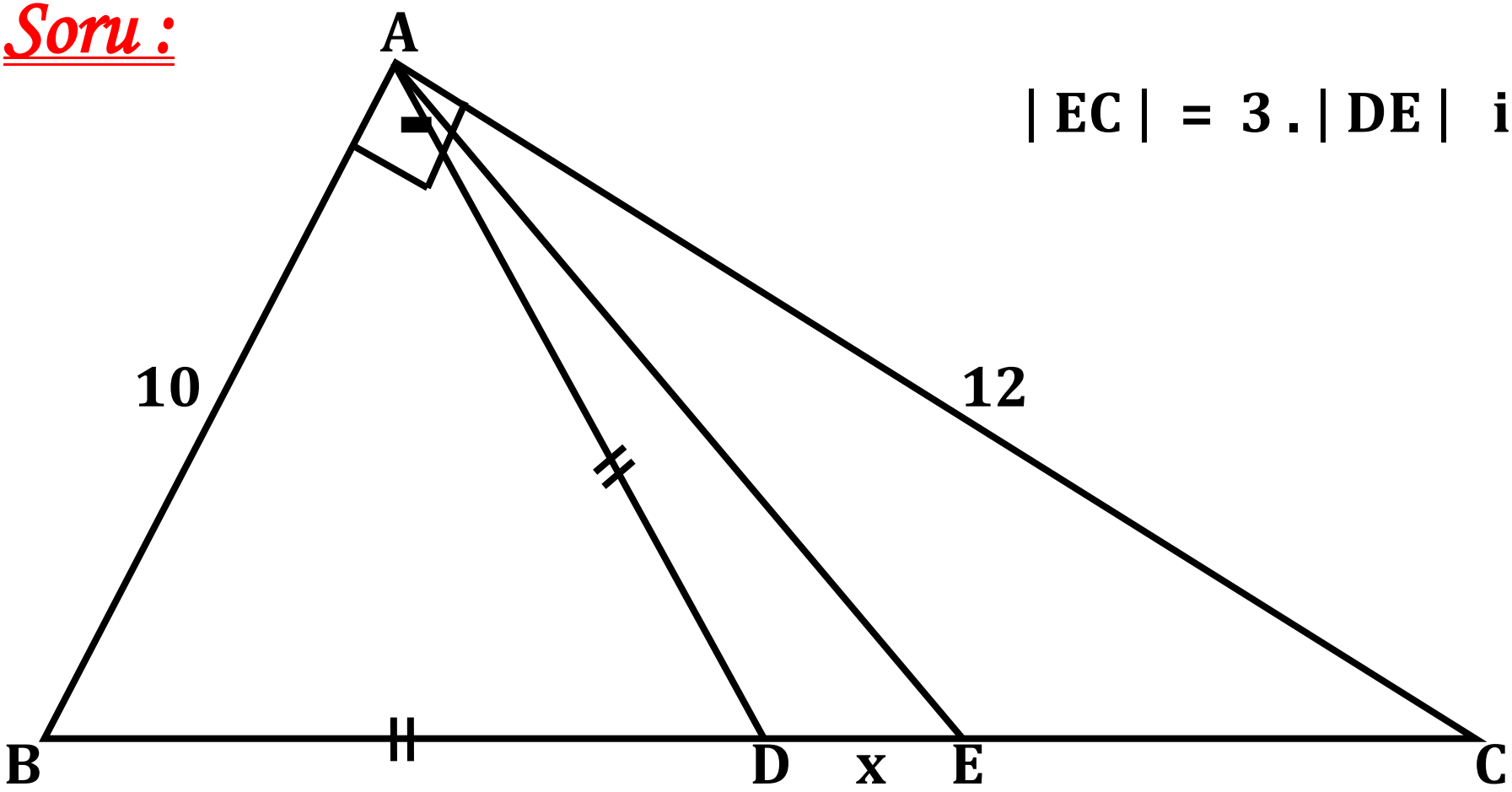
G noktası ABC üçgeninin ağırlık merkezi ise | AB | = ?

Soru :

x = ?



Soru :

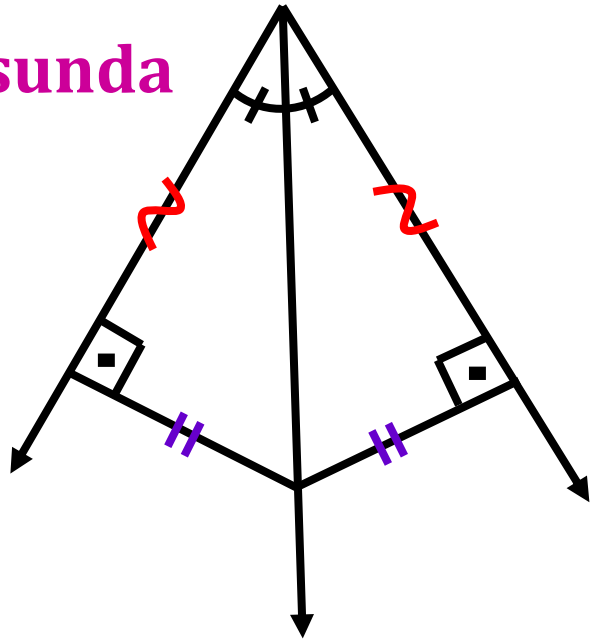


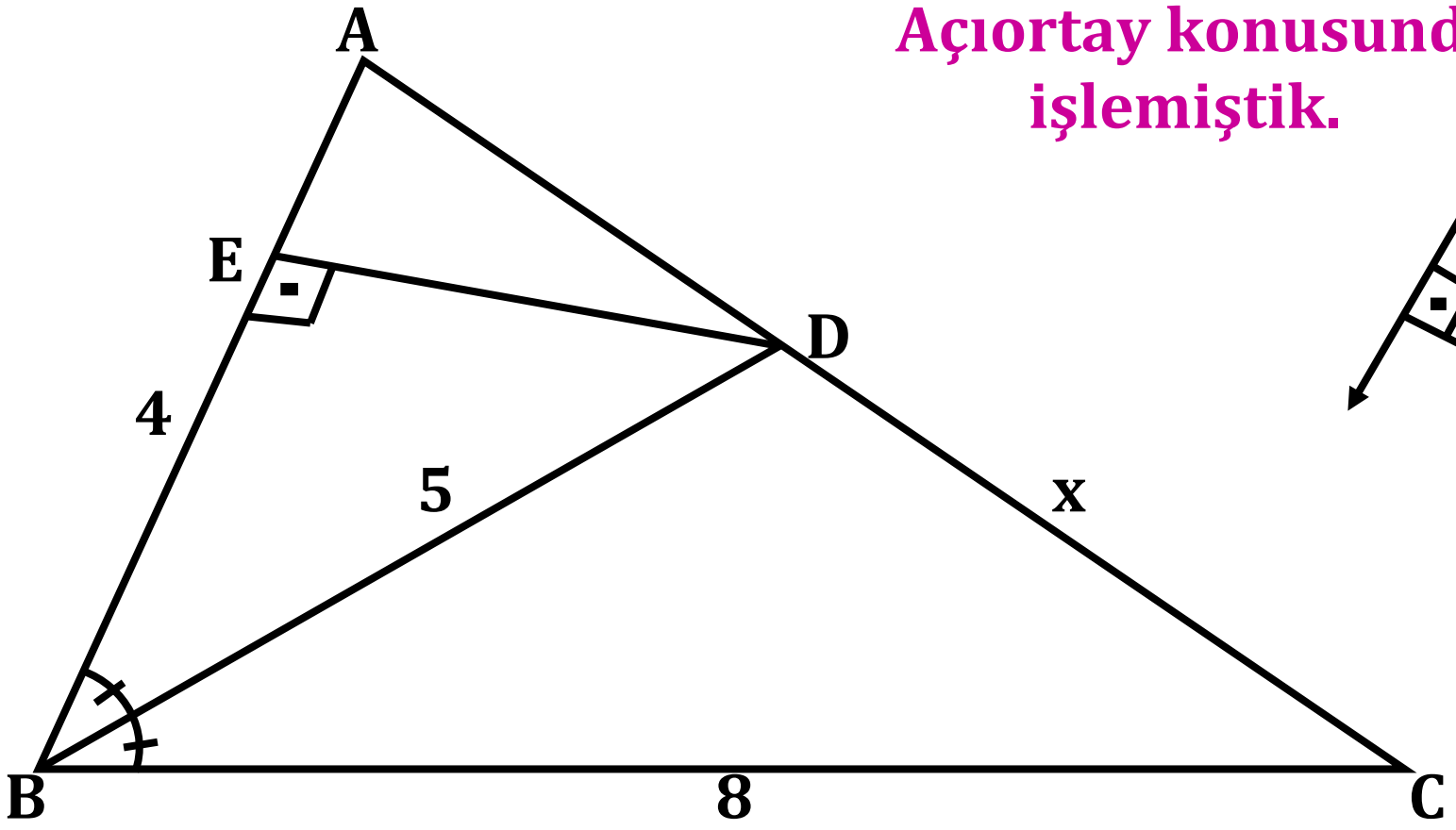
| EC | = 3 . | DE | ise x = ?

Örnek :

(Hatırlatma :

Açıortay konusunda işlemiştik.



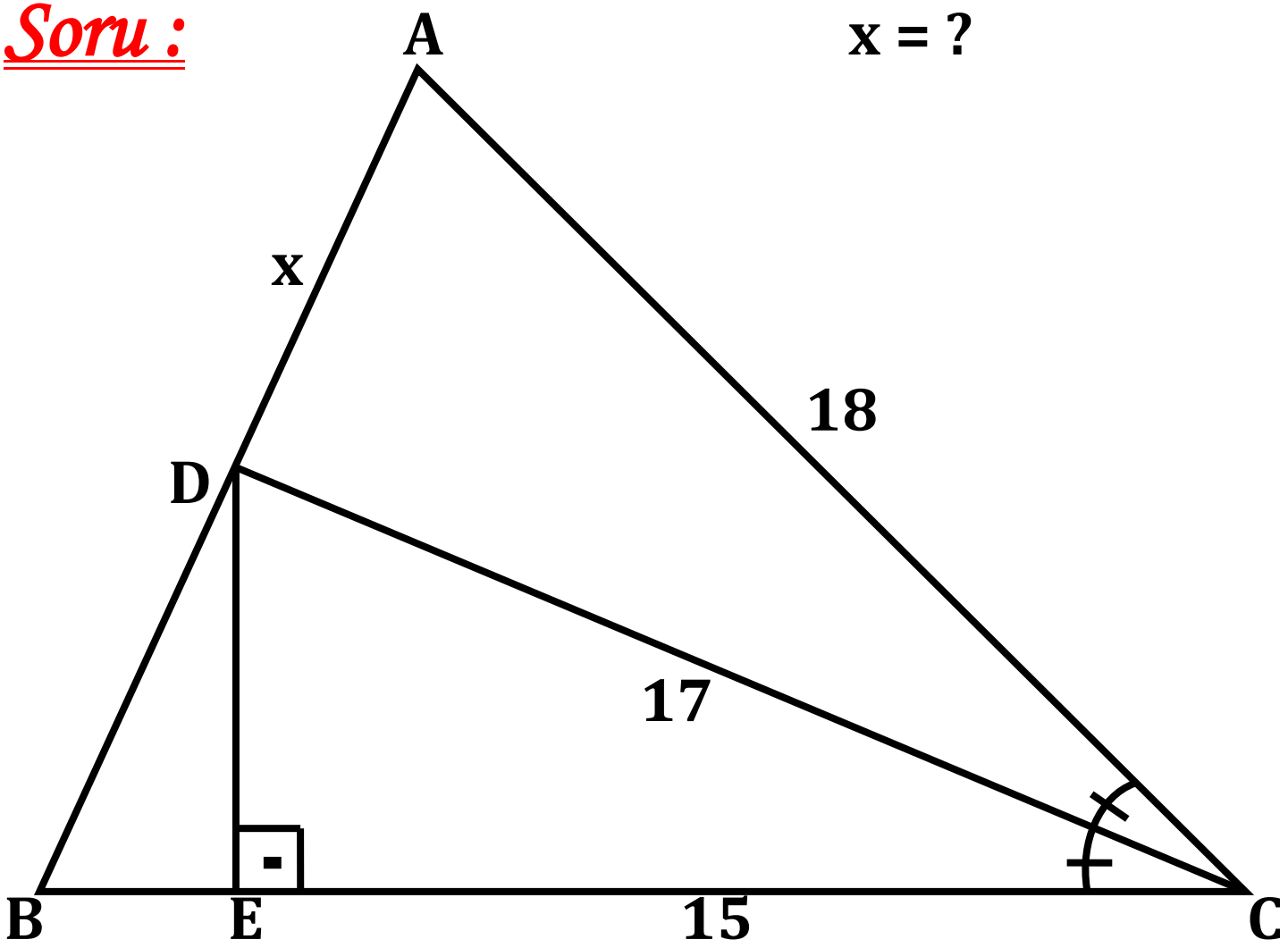


x = ?

(D ’den [BC] tabanına dik indirilir.)

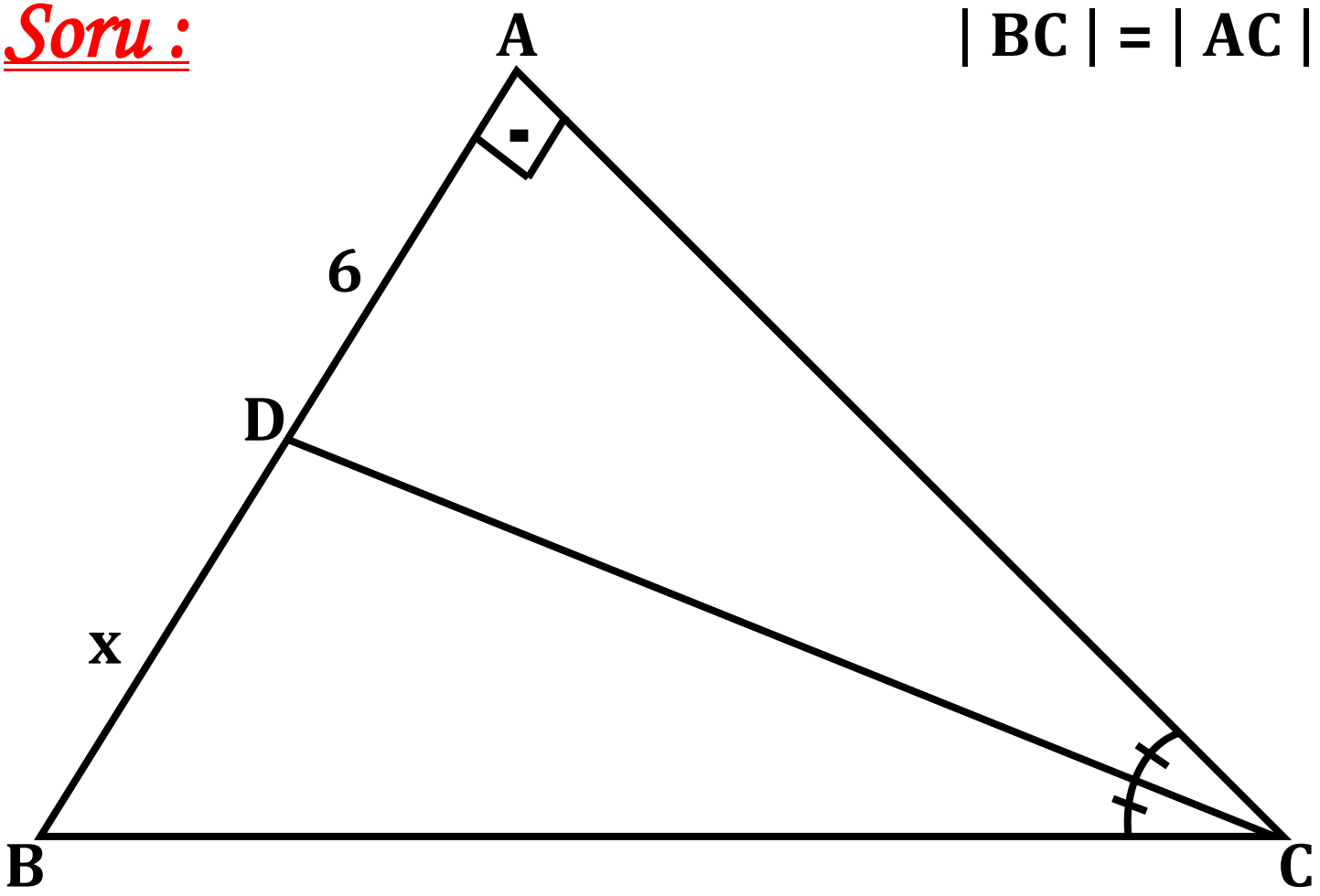
Soru :

x = ?

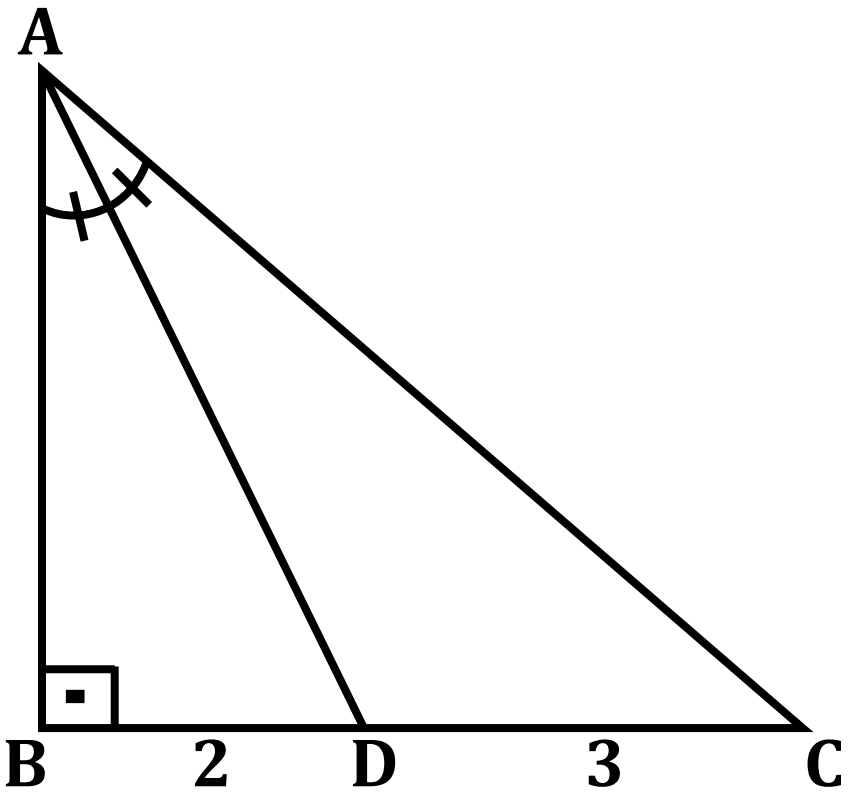


Soru :

| BC | = | AC | + 2 ise x = ?



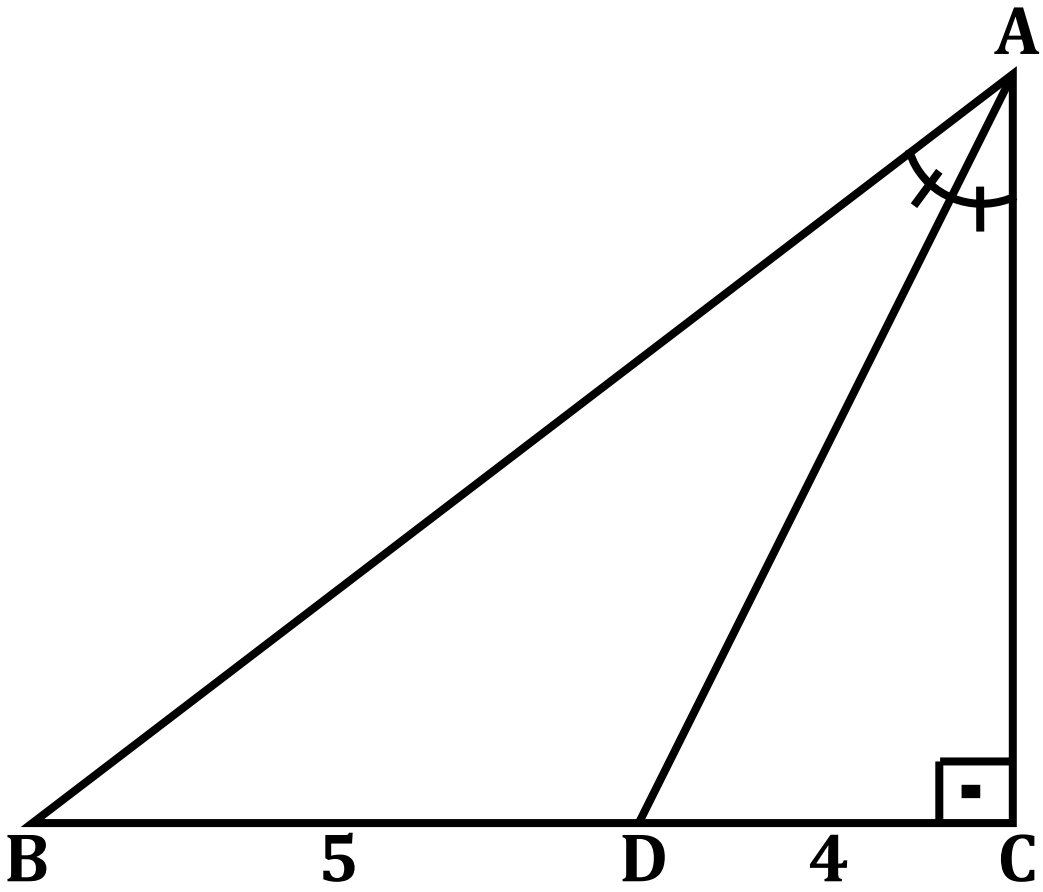
Örnek : **Verilenlere göre | AB | = ?**



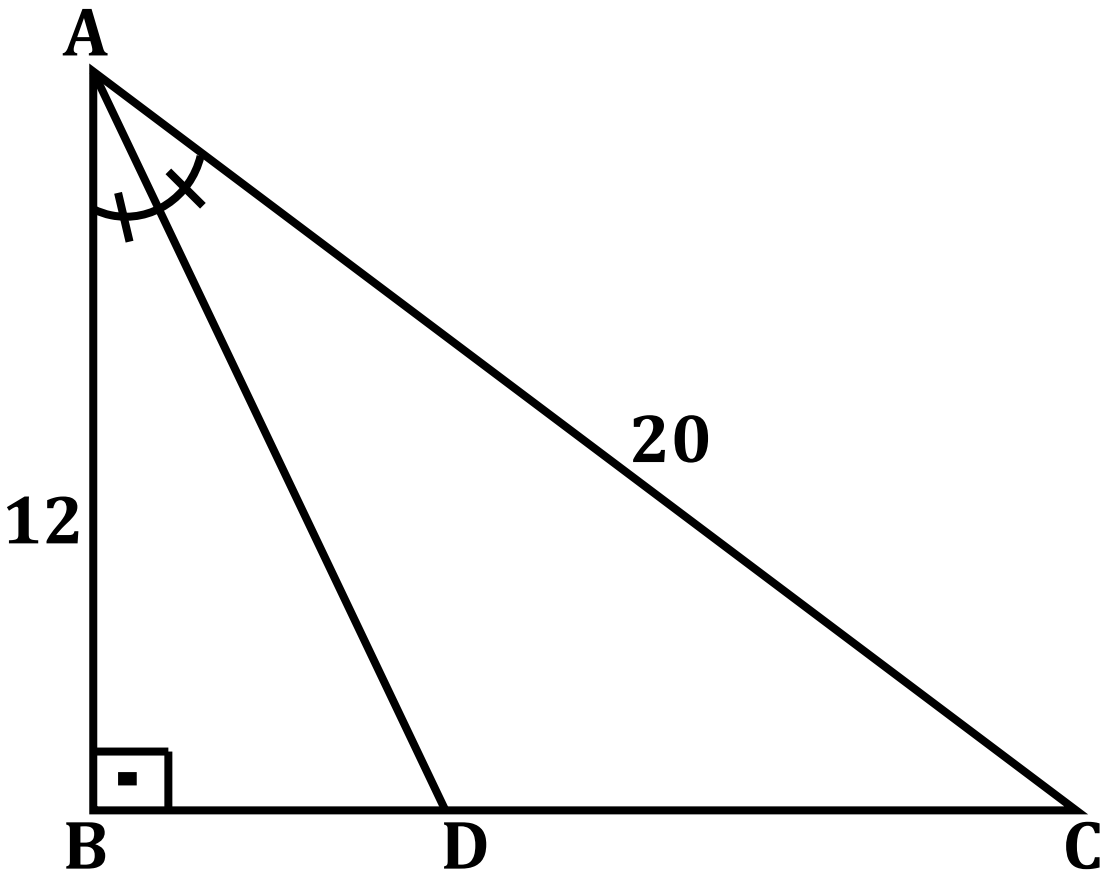
(İç açıortay ’da yan tabanlar alt tabanlarla orantılı idi.)

Soru :

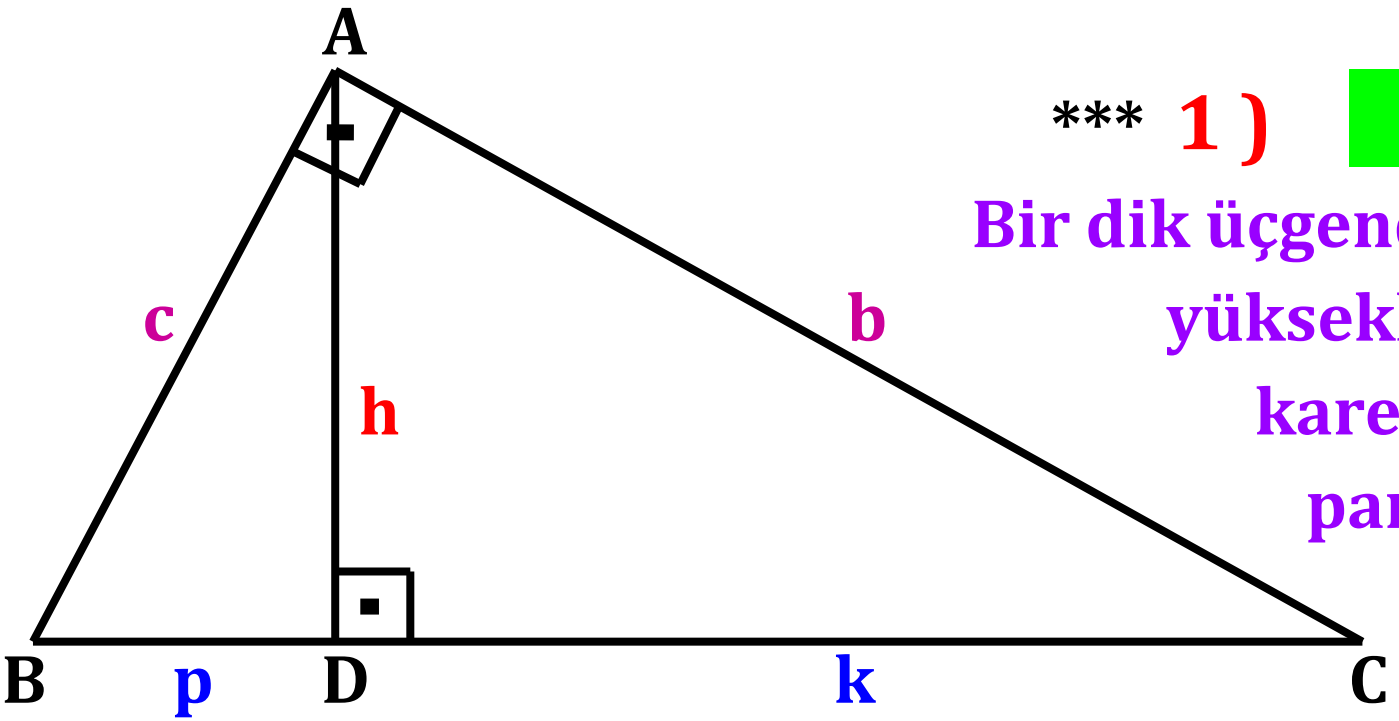
Ç (ABC) = ?



Soru : **Verilenlere göre | BD | = ?**



Öklit Bağıntısı



*** 1) $h^2 = p \cdot k$

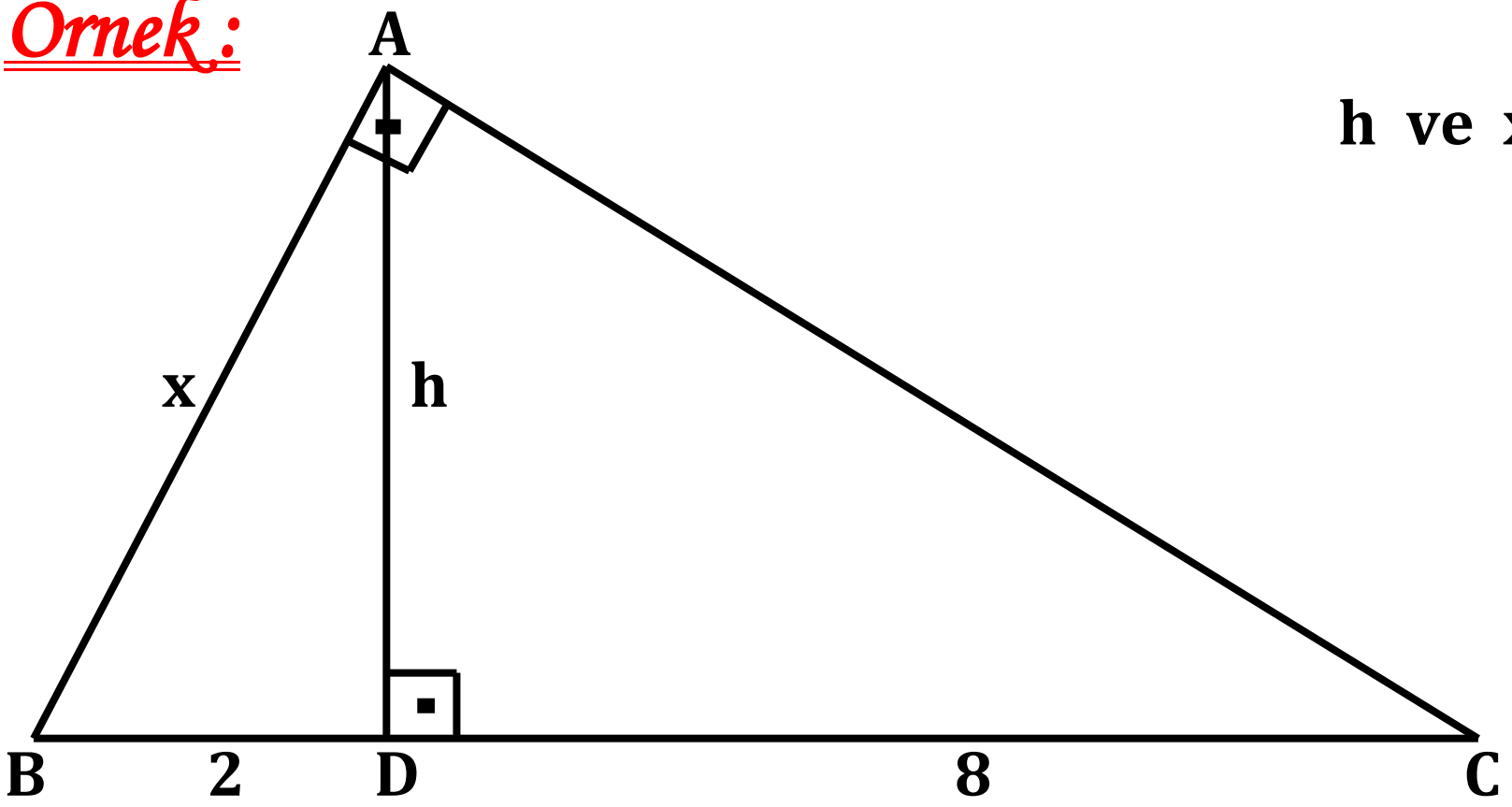
Bir dik üçgende; hipotenüse ait yüksekliğin uzunluğunun karesi, tabanda ayırdığı parçaların uzunlukları çarpımına eşittir.

2) $b^2 = k \cdot (k + p)$

3) $c^2 = p \cdot (p + k)$

Bir dik üçgende; bir dik kenarın uzunluğunun karesi, hipotenüse ait yüksekliğin hipotenüs üzerinde ayırdığı parçalardan kendi tarafında olanının uzunluğu ile hipotenüsün uzunluğunun çarpımına eşittir.

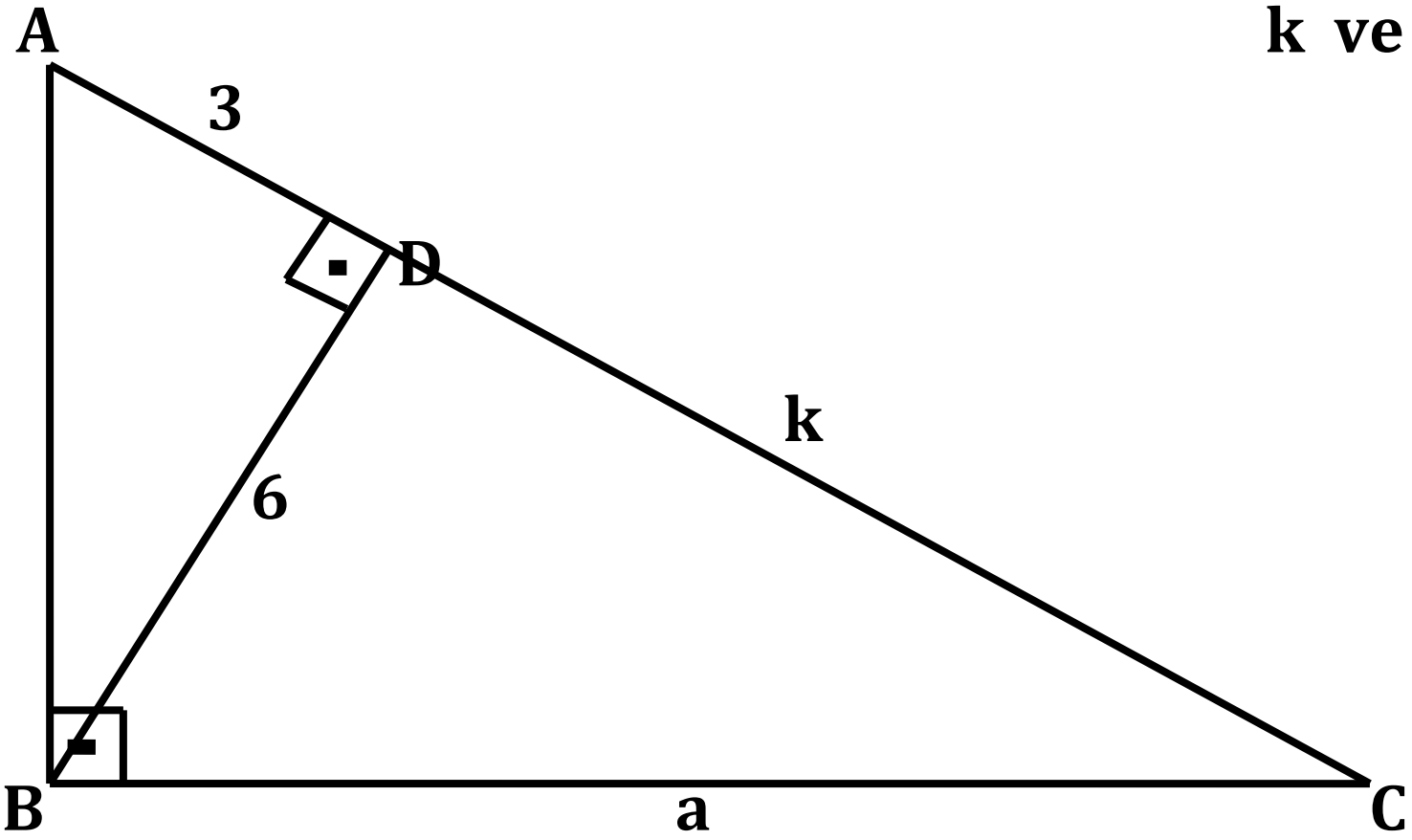
Örnek :



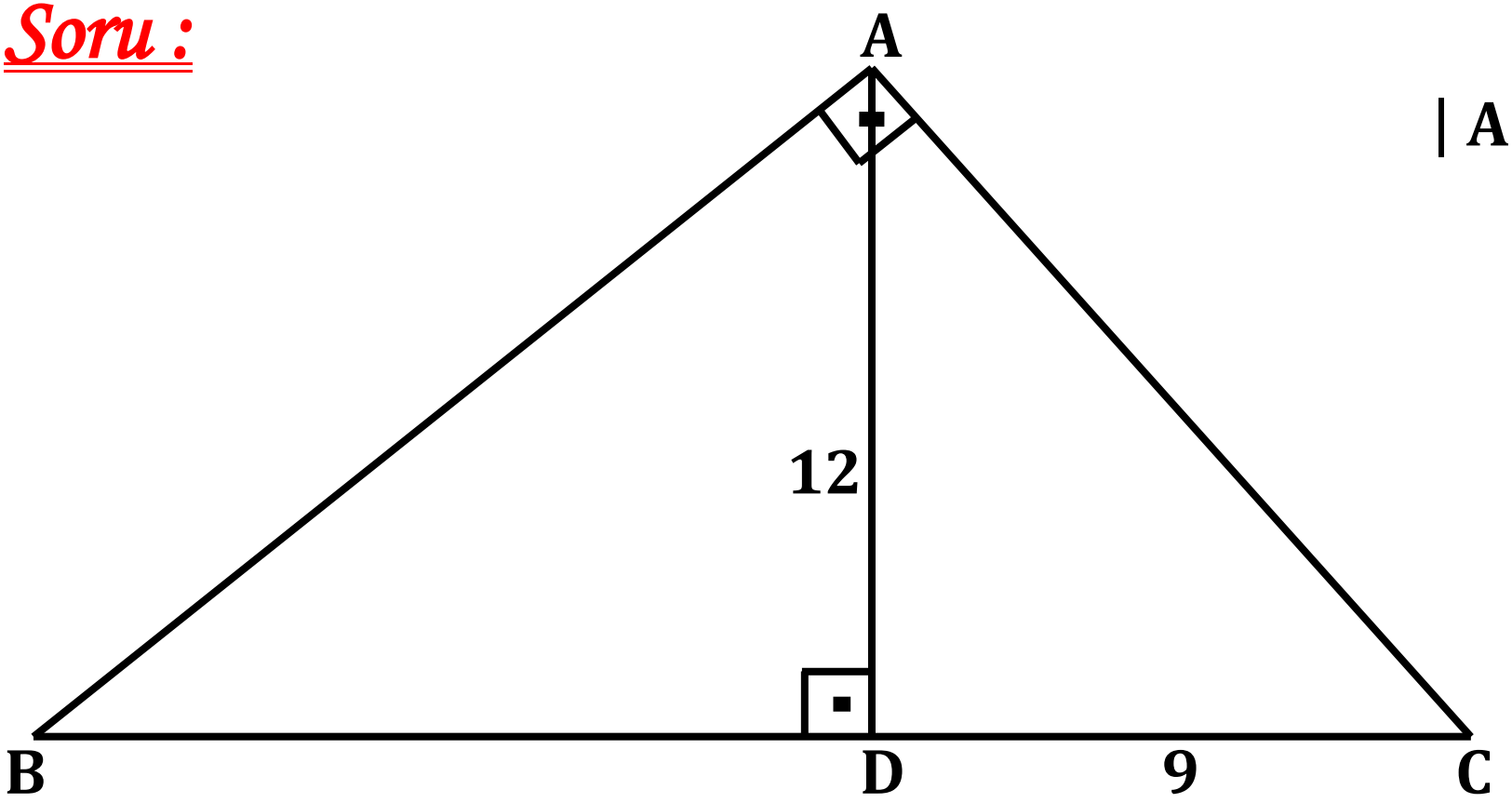
h ve x ’i bulunuz.

Soru :

k ve a 'yı bulunuz.

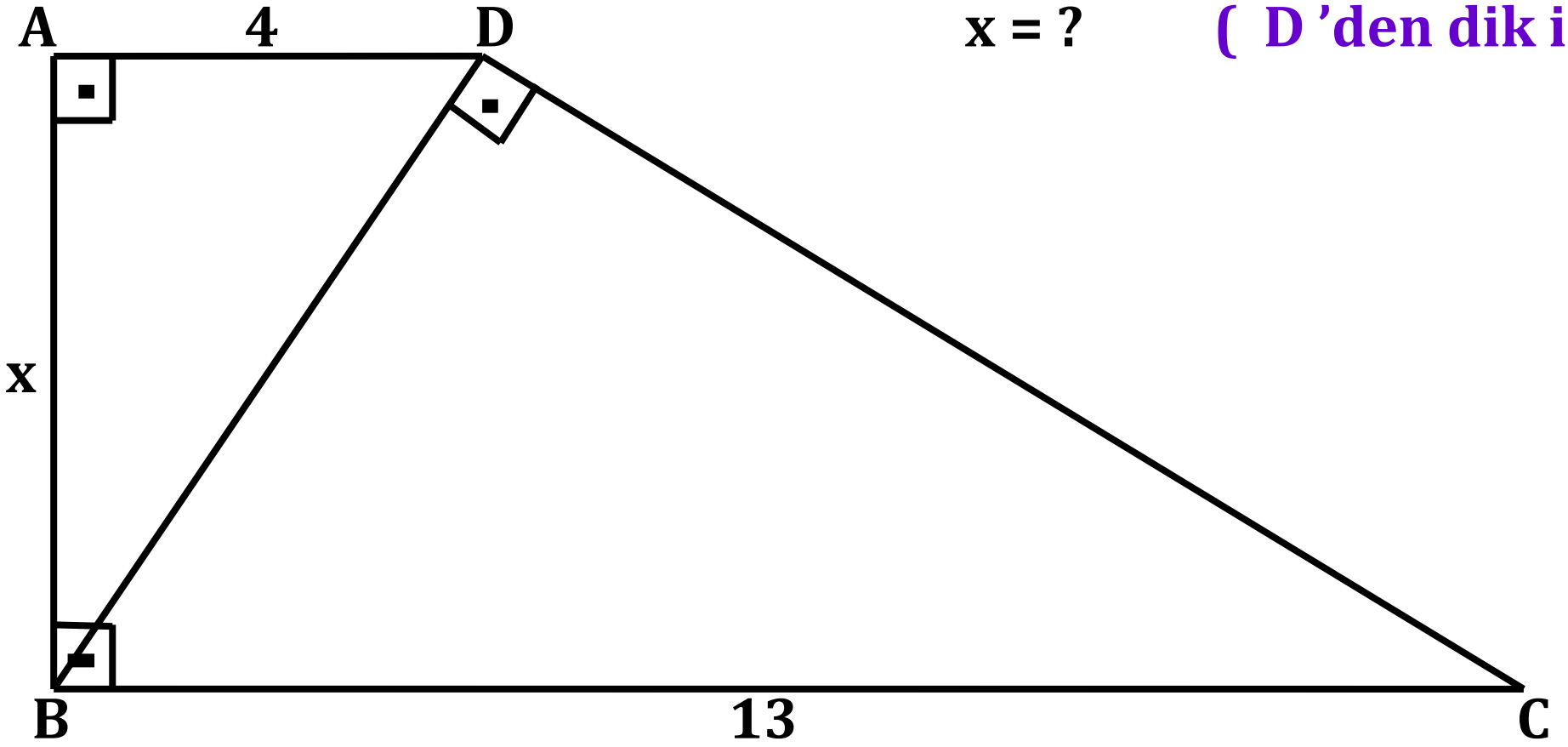


Soru :



| AB | + | BD | = ?

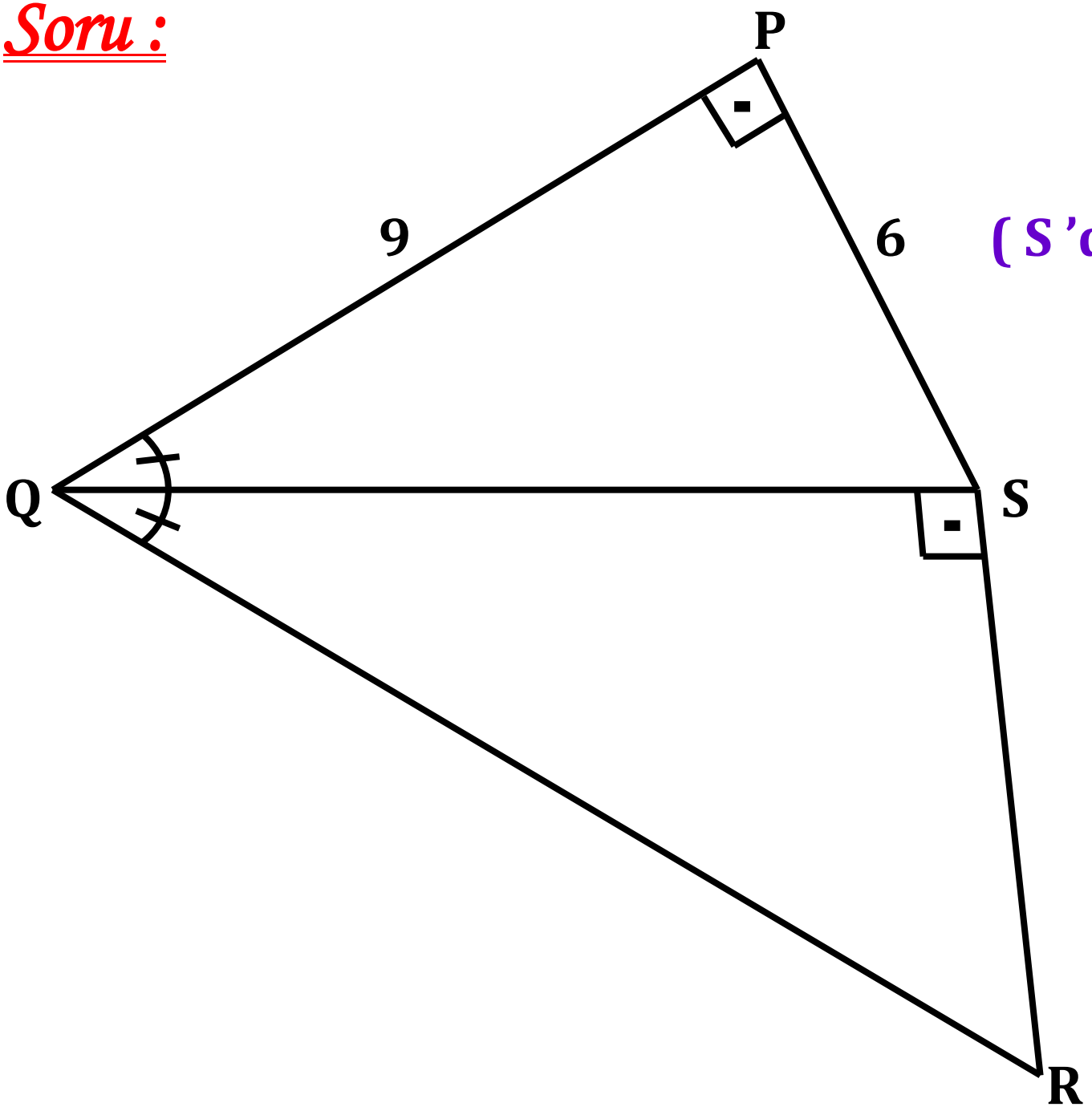
Soru :



x = ?

(D ’den dik indir.)

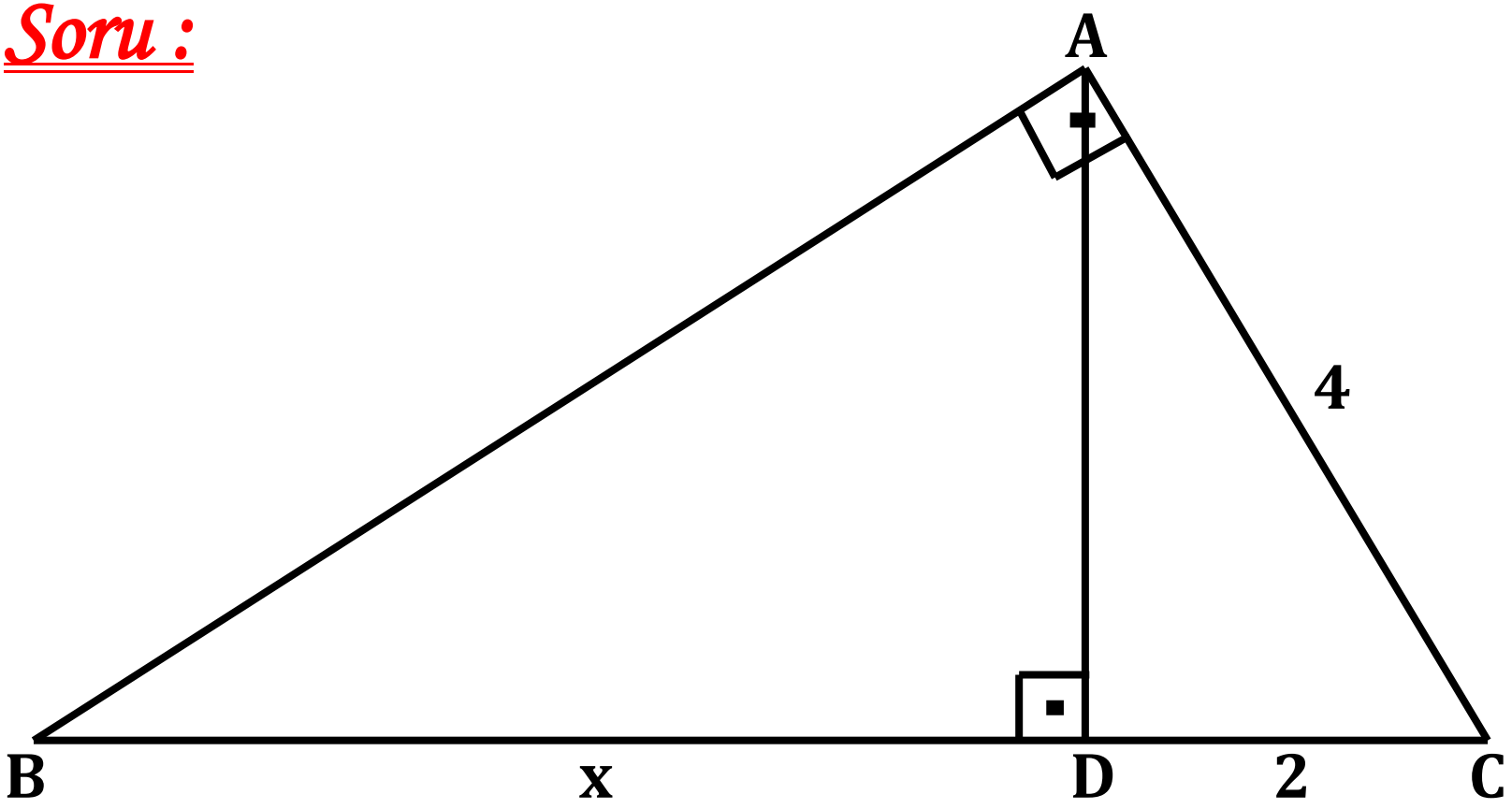
Soru :



| QR | = ?

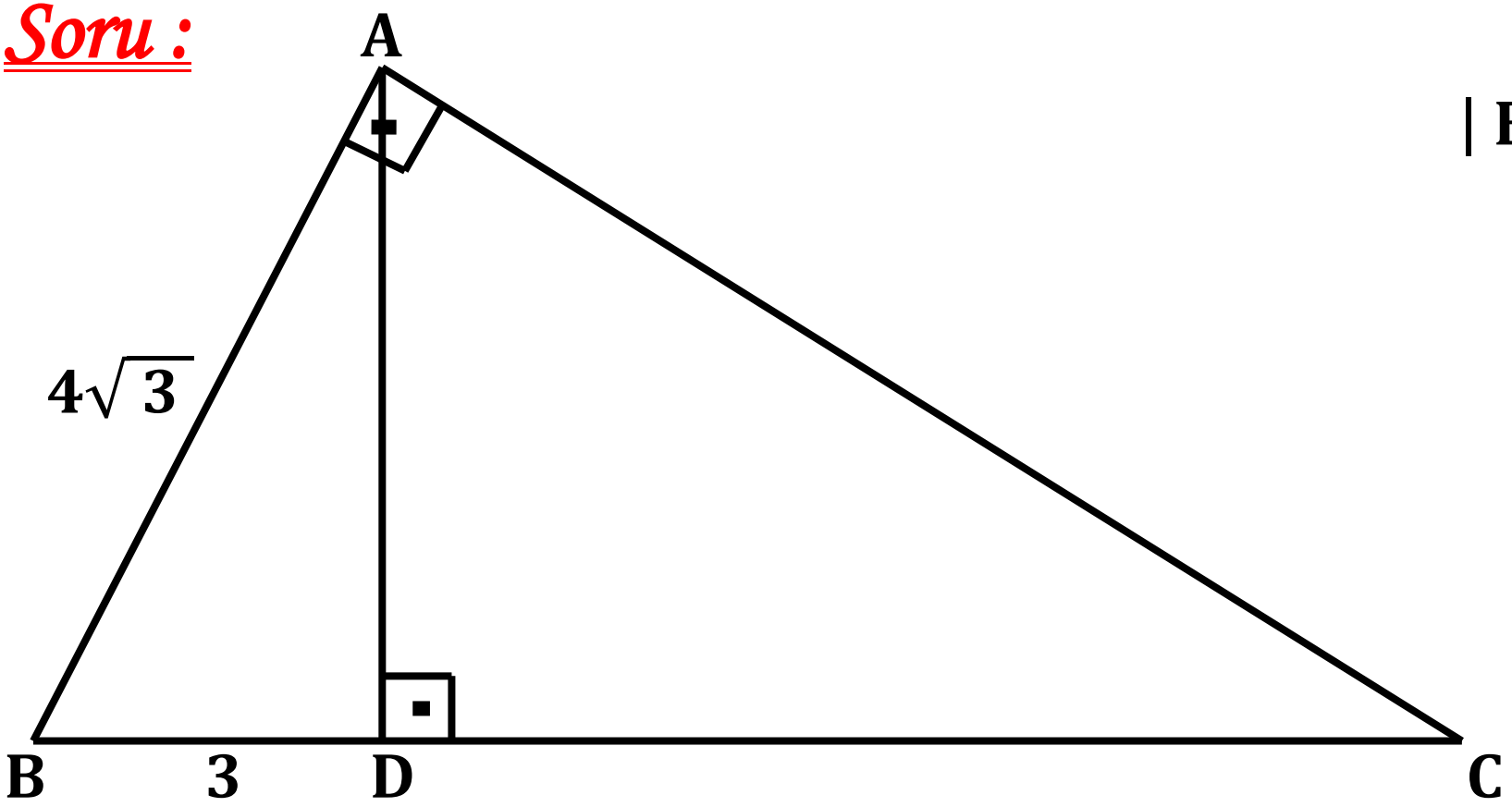
**(S 'den [QR] 'ye dik indir.
Açıortay ve Öklit'ten
istenen bulunur.)**

Soru :



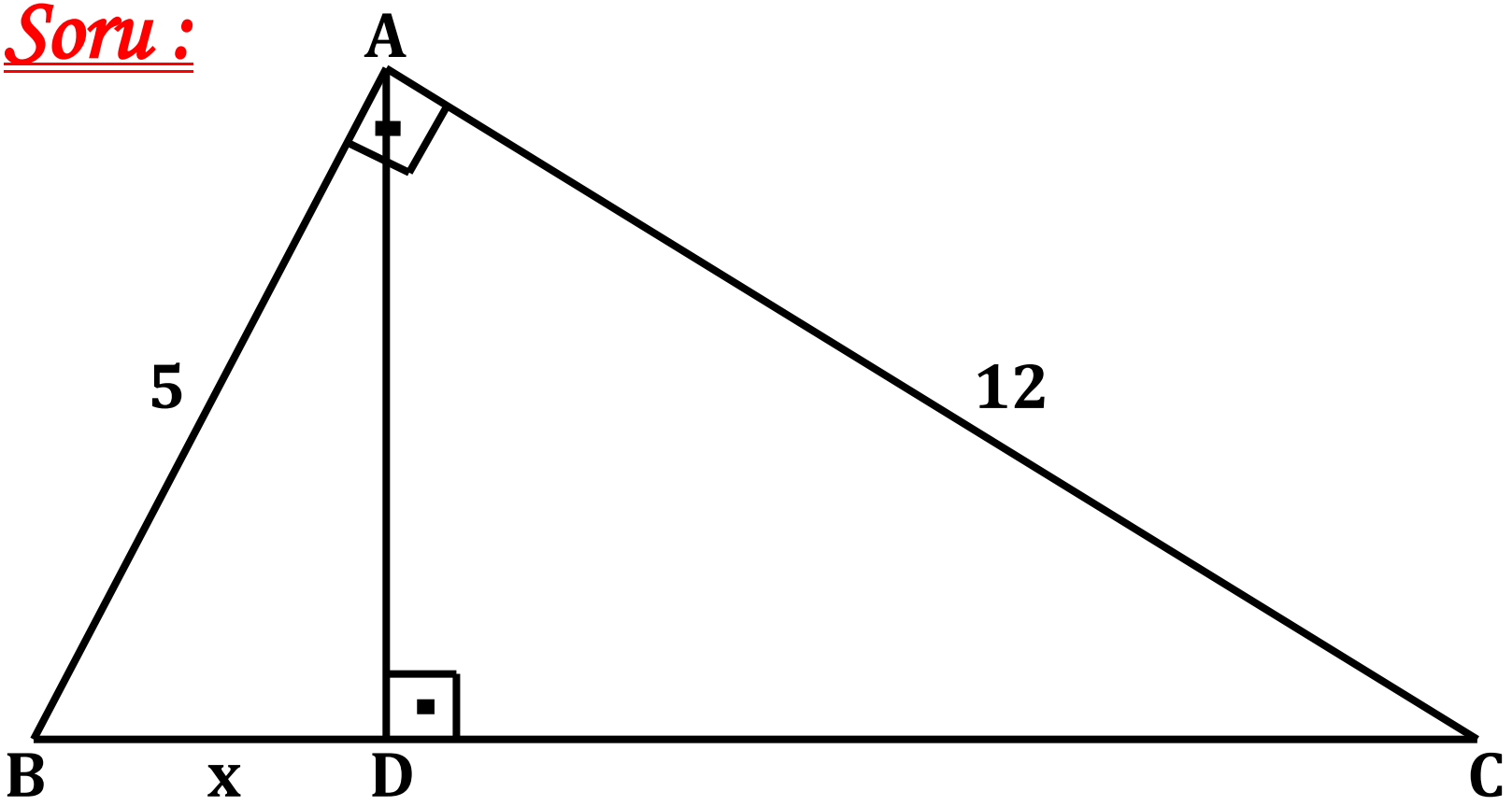
x = ?

Soru :



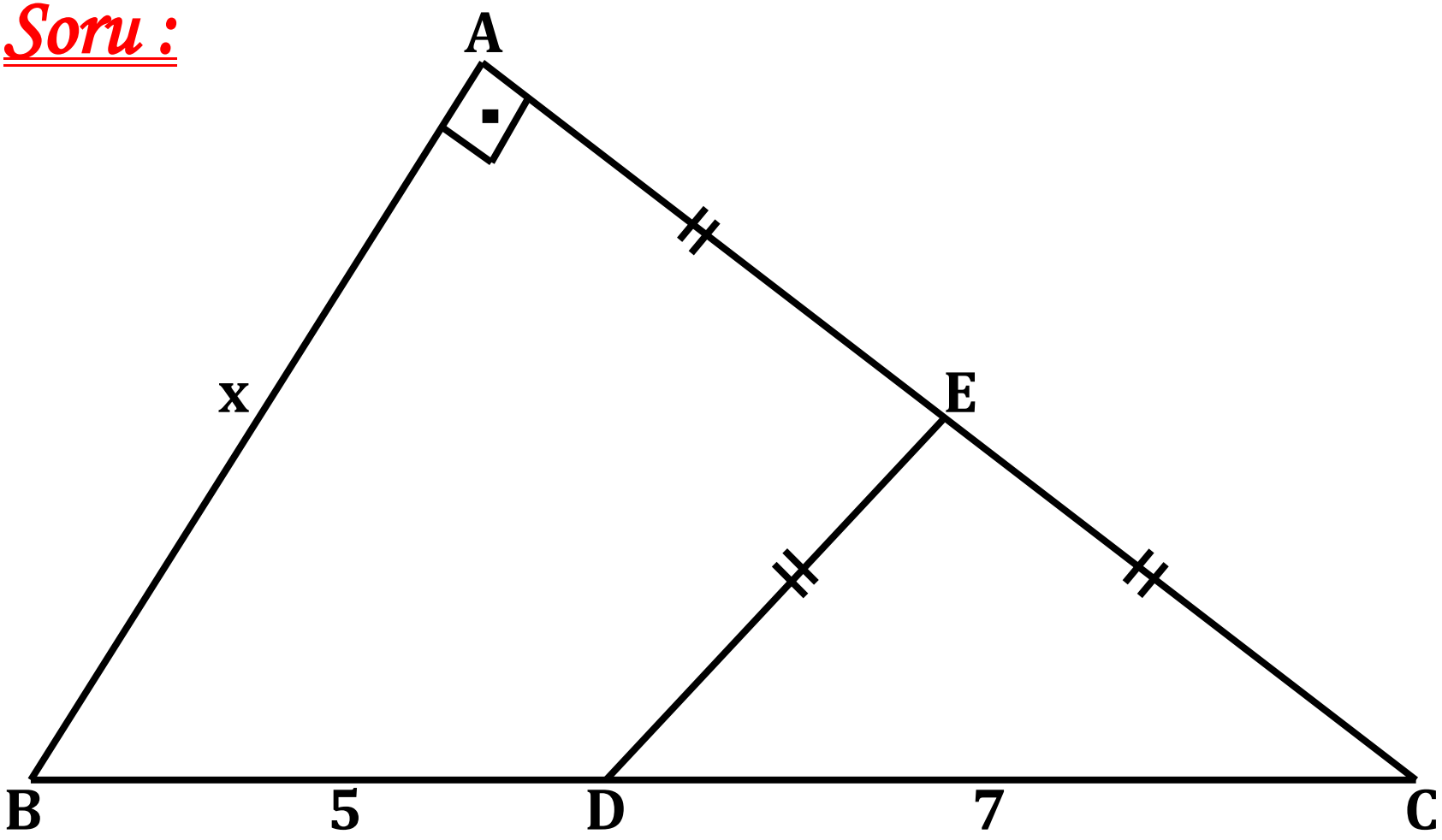
| BC | = ?

Soru :



x = ?

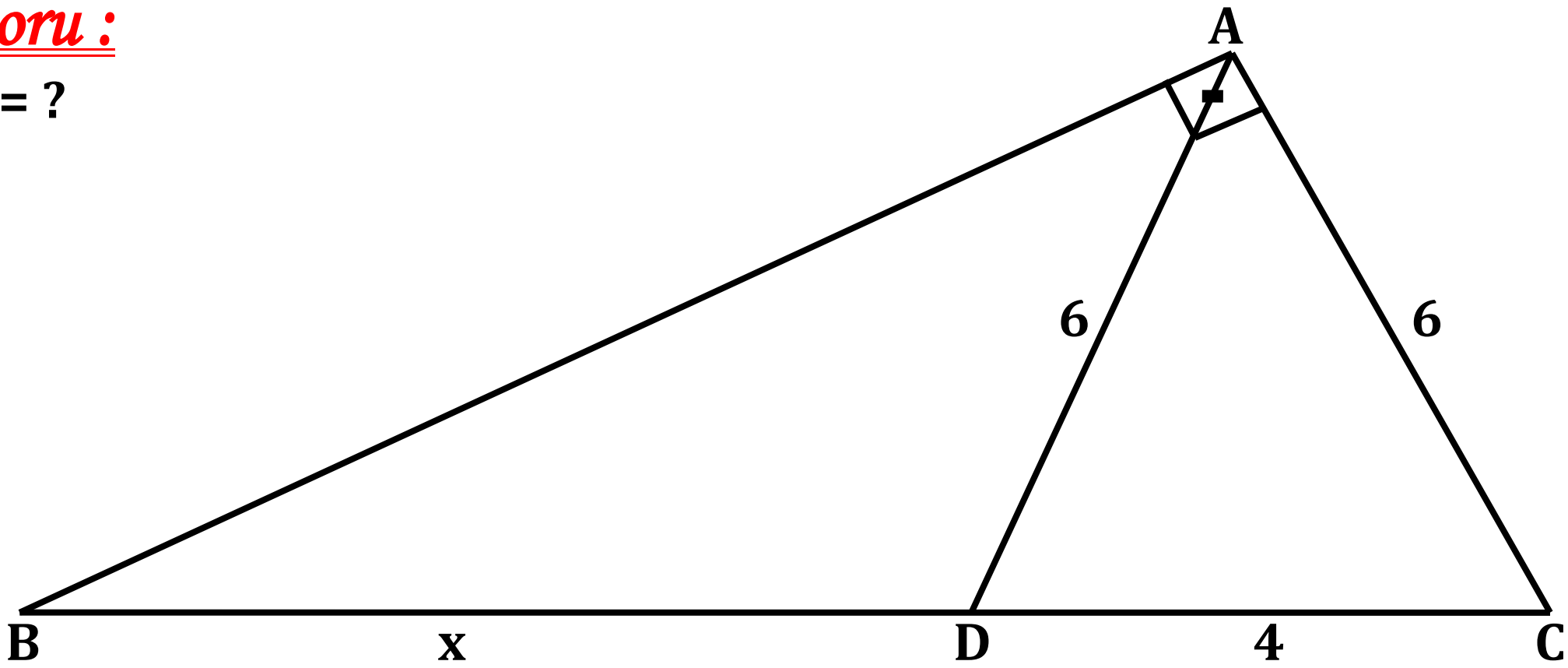
Soru :



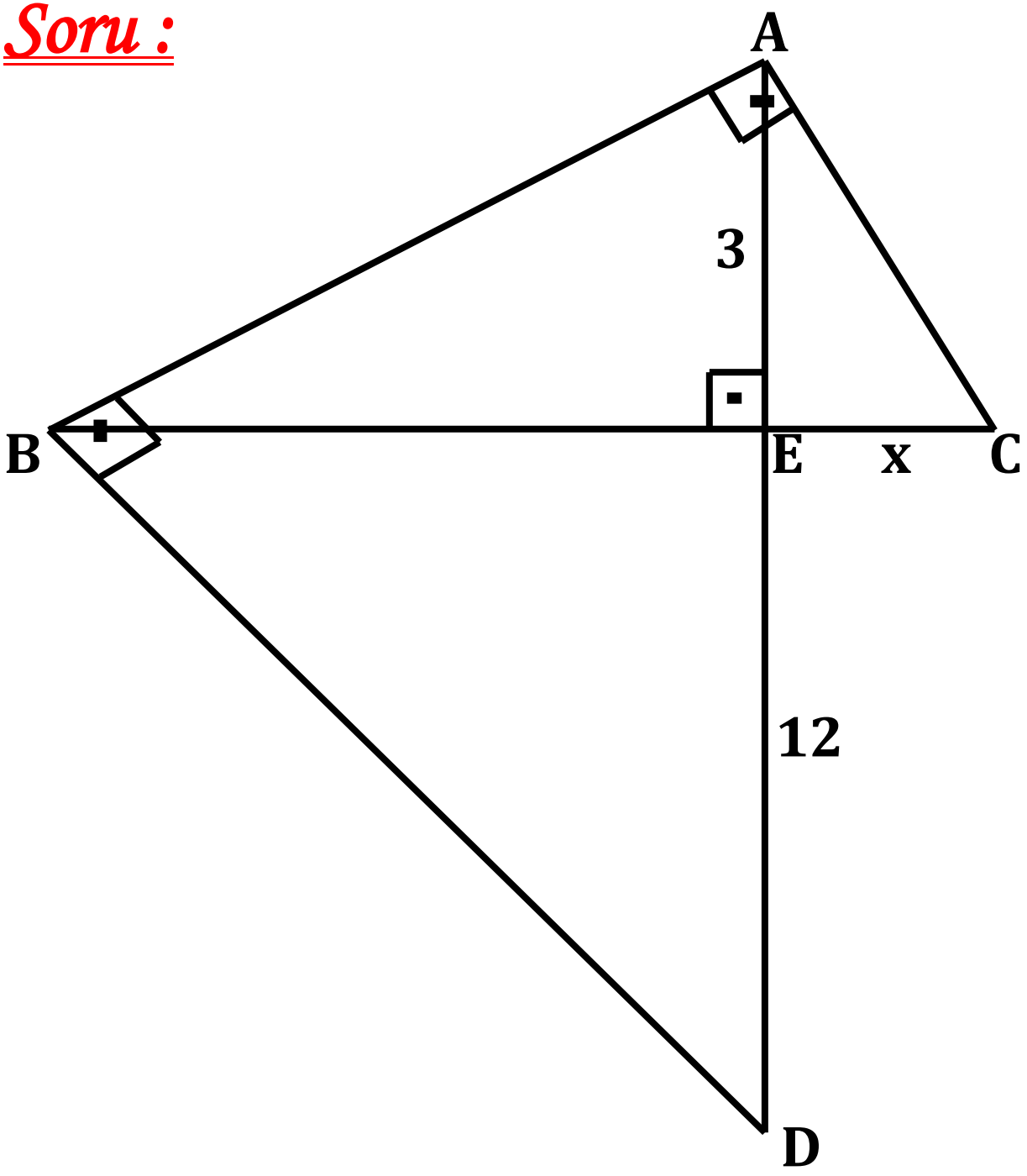
x = ?

Soru :

x = ?

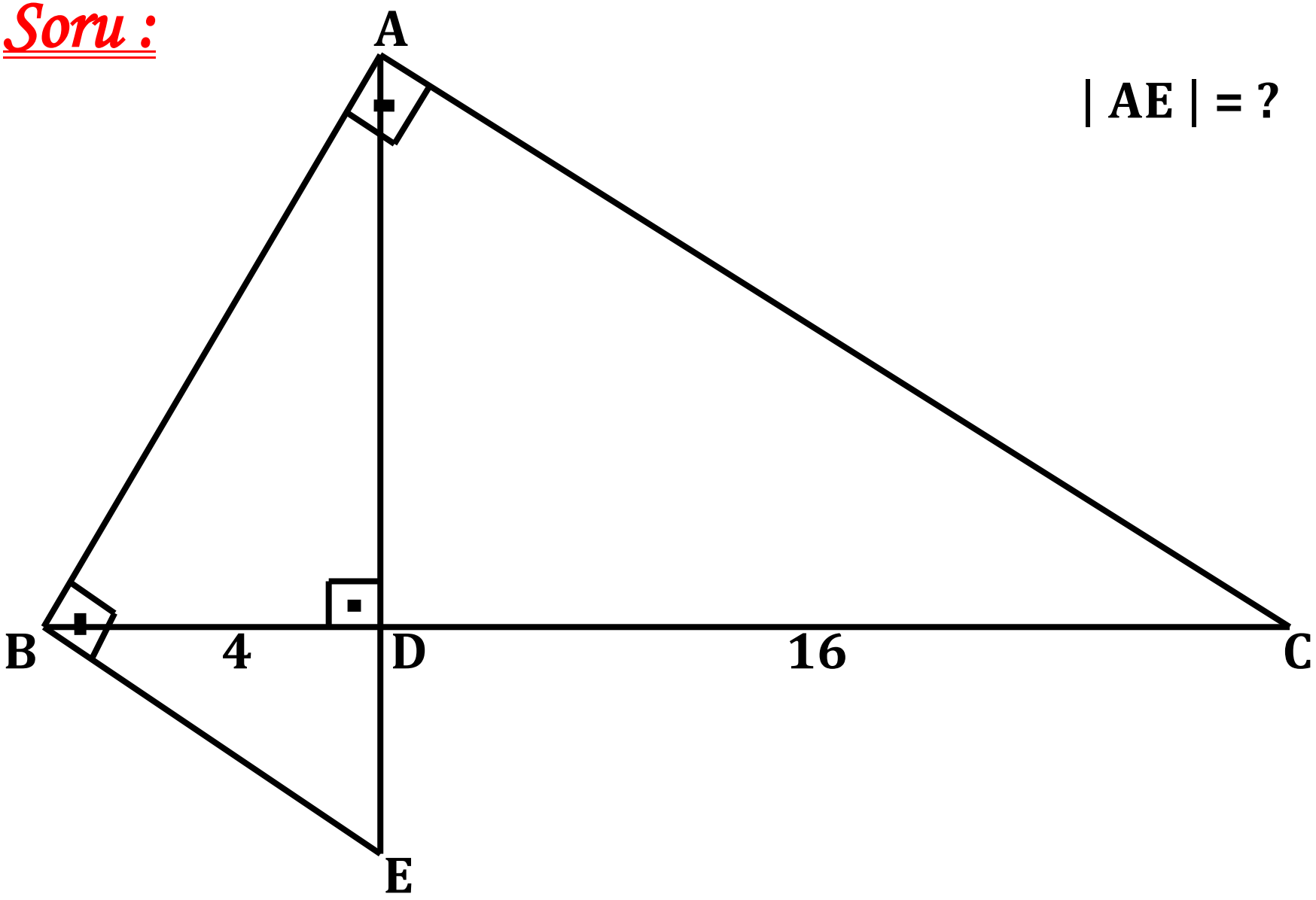


Soru :



x = ?

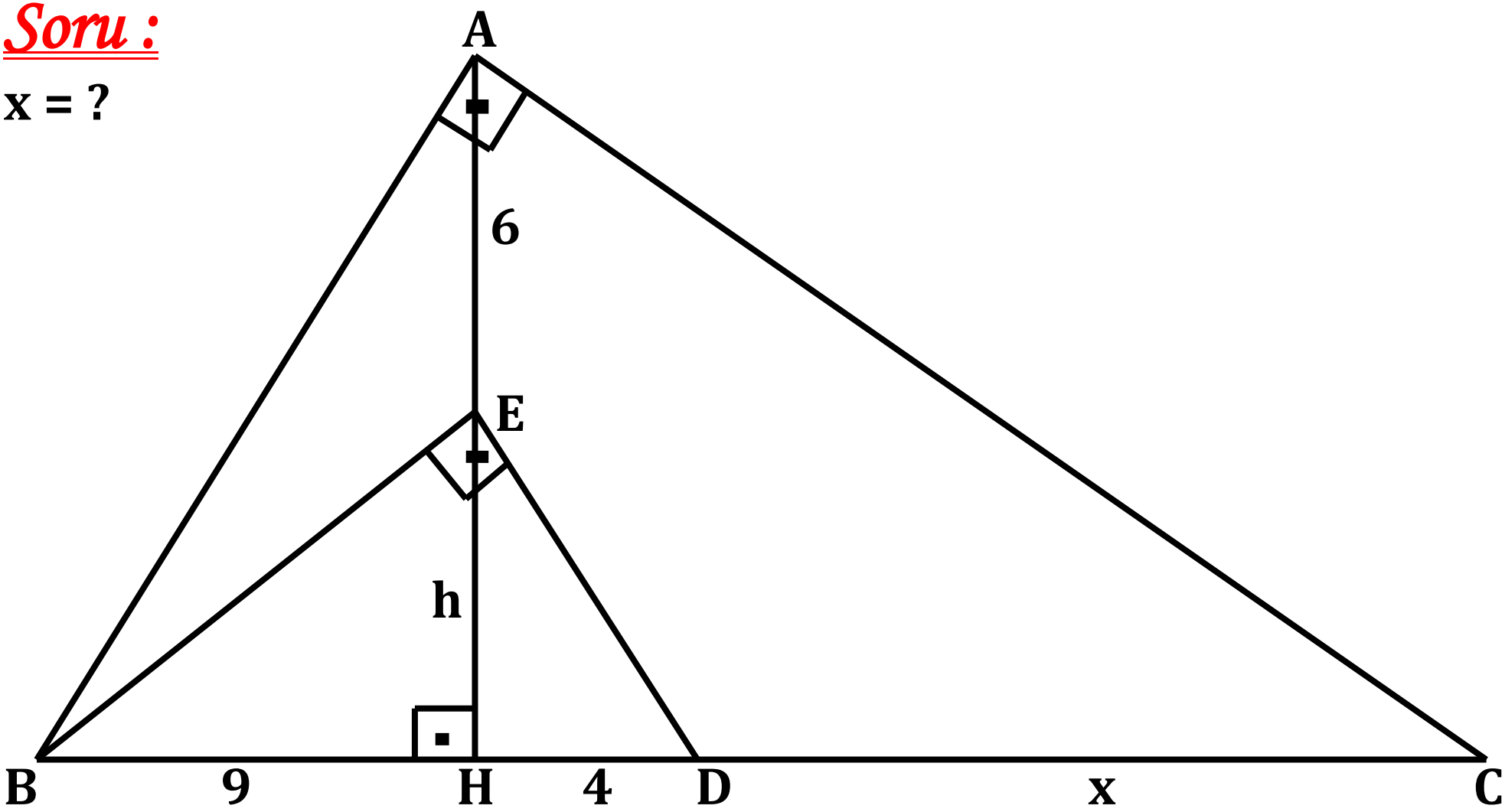
Soru :



| AE | = ?

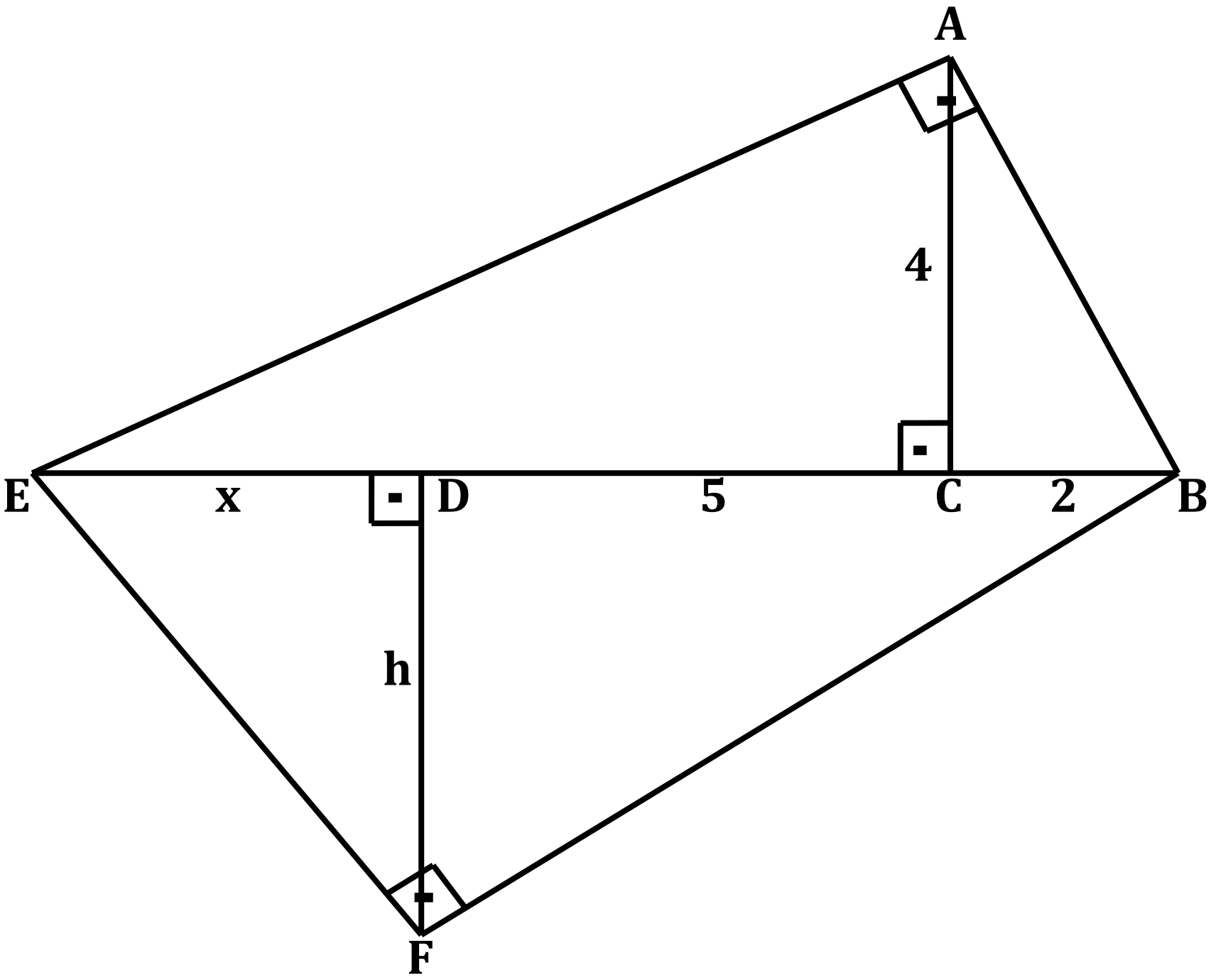
Soru :

x = ?

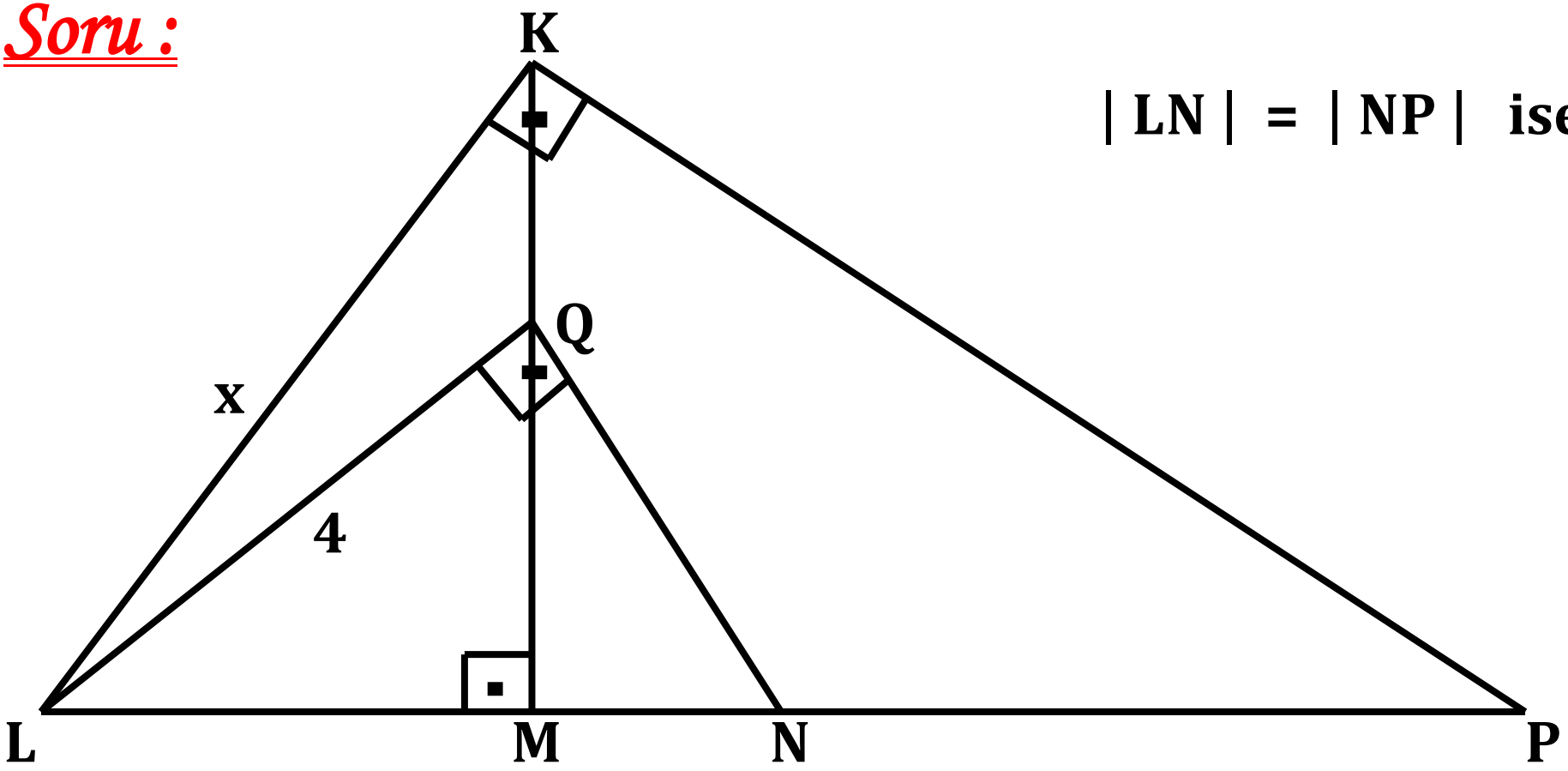


Soru :

h = ?



Soru :

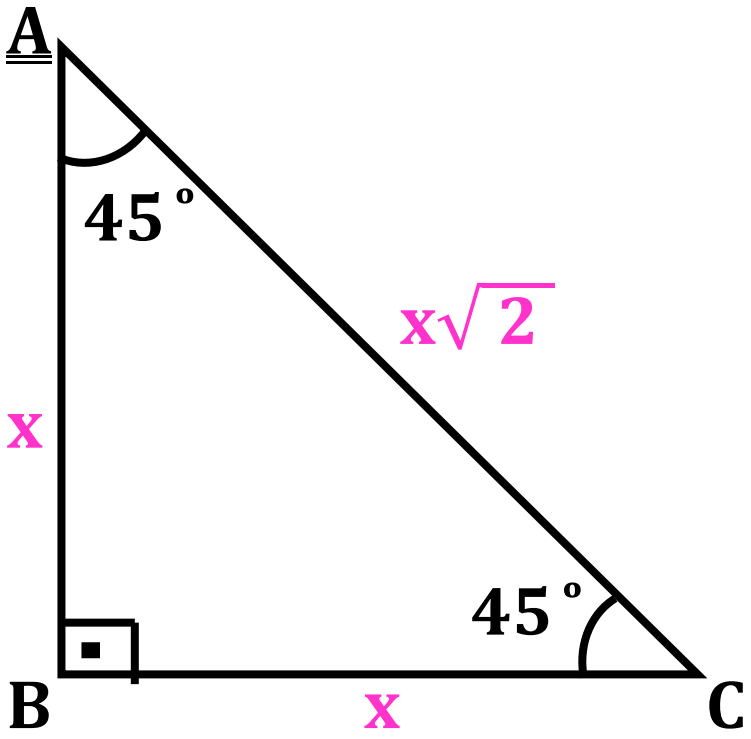


| LN | = | NP | ise x = ?

(Tabandaki parçalara harf ver.)

Özel Dik Üçgenler 2

A) 45° - 45° - 90° Üçgeni :

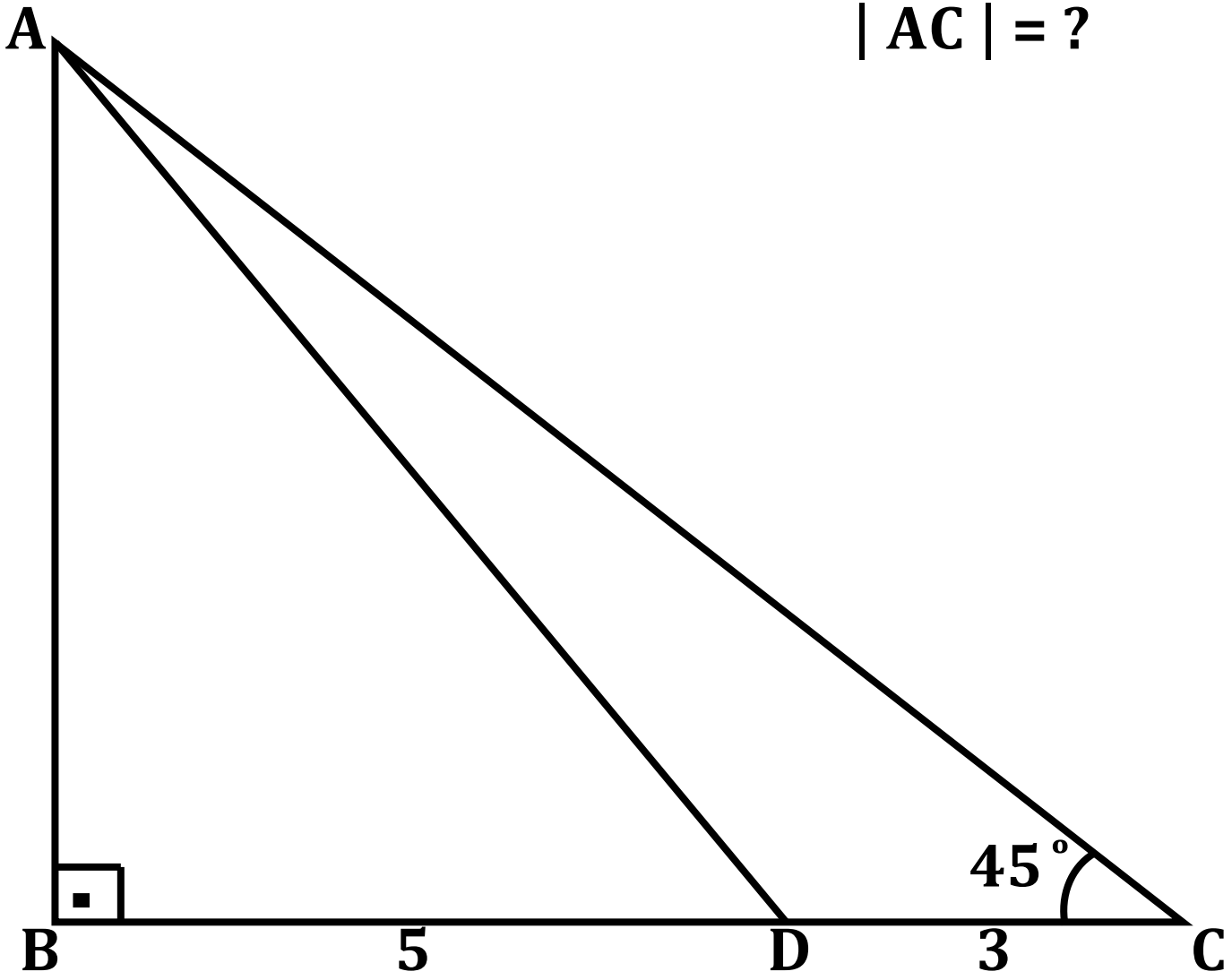


45° - 45° - 90° üçgeninde ;
90° 'yi gören kenar uzunluğu,
45° 'yi gören kenar
uzunluğunun $\sqrt{2}$ katıdır.

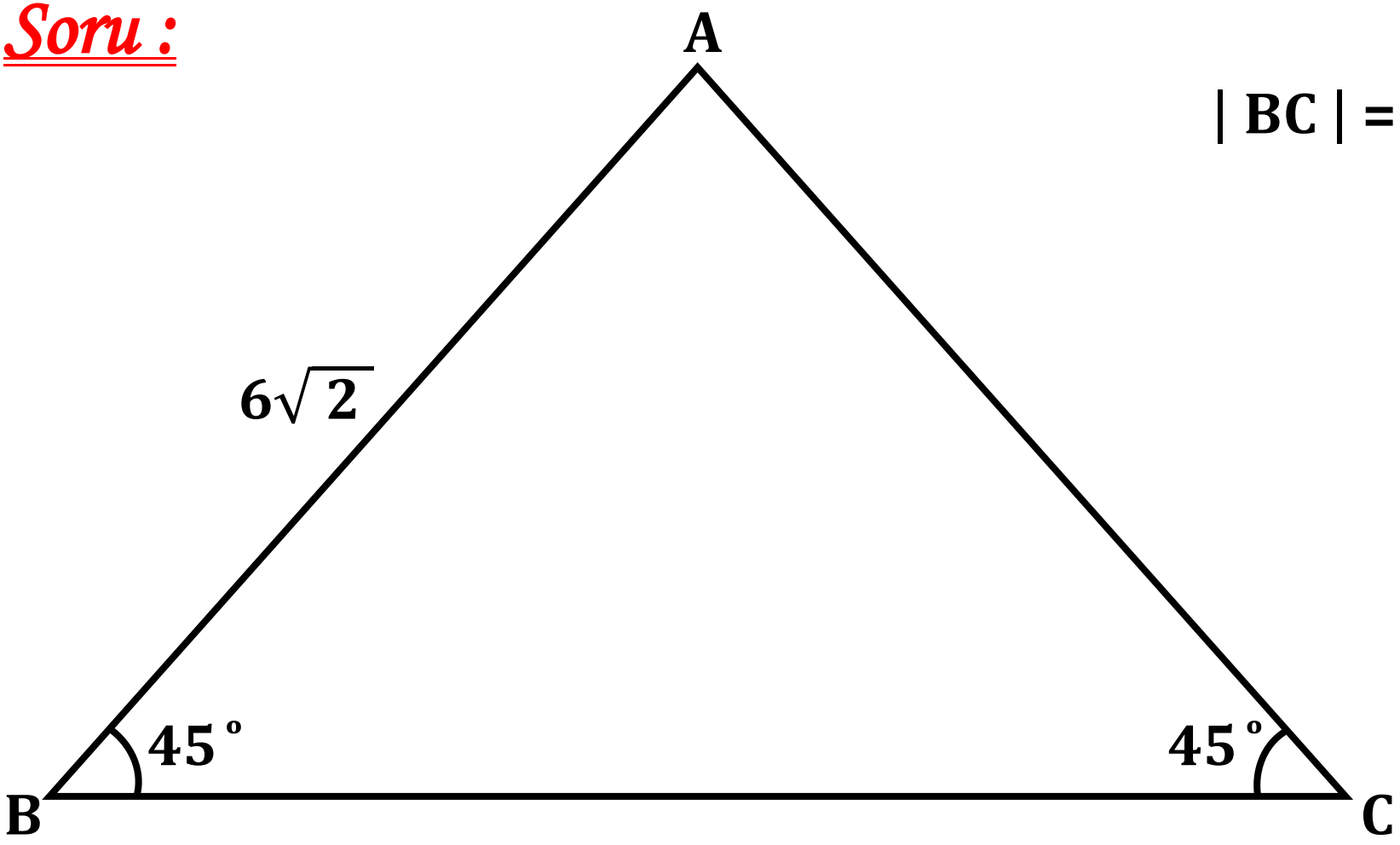
45° - 45° - 90° üçgeninde ; 45° 'yi gören kenar uzunluğu,
90° 'yi gören kenar uzunluğunun $\sqrt{2}$ ile bölümüne eşittir.

Örnek :

| AC | = ?



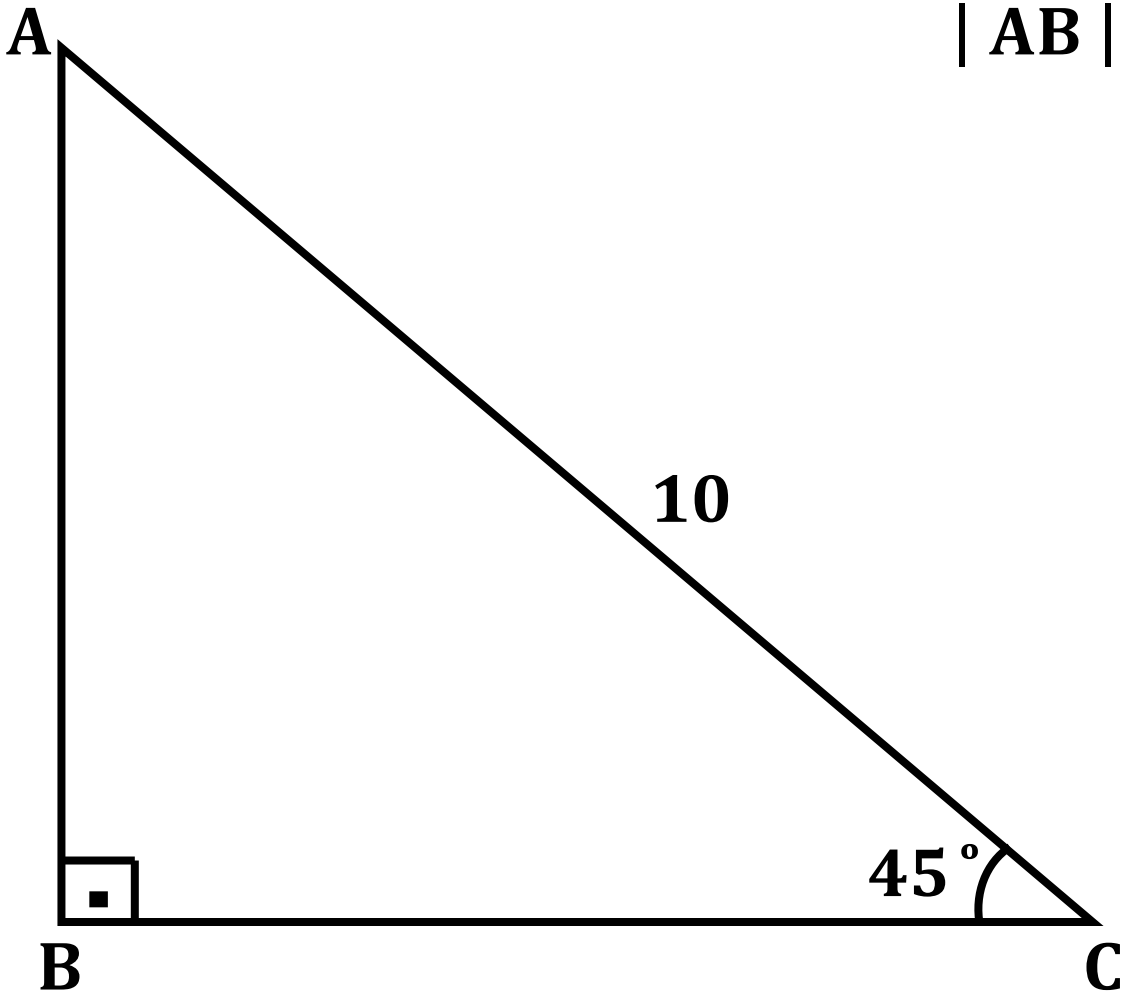
Soru :



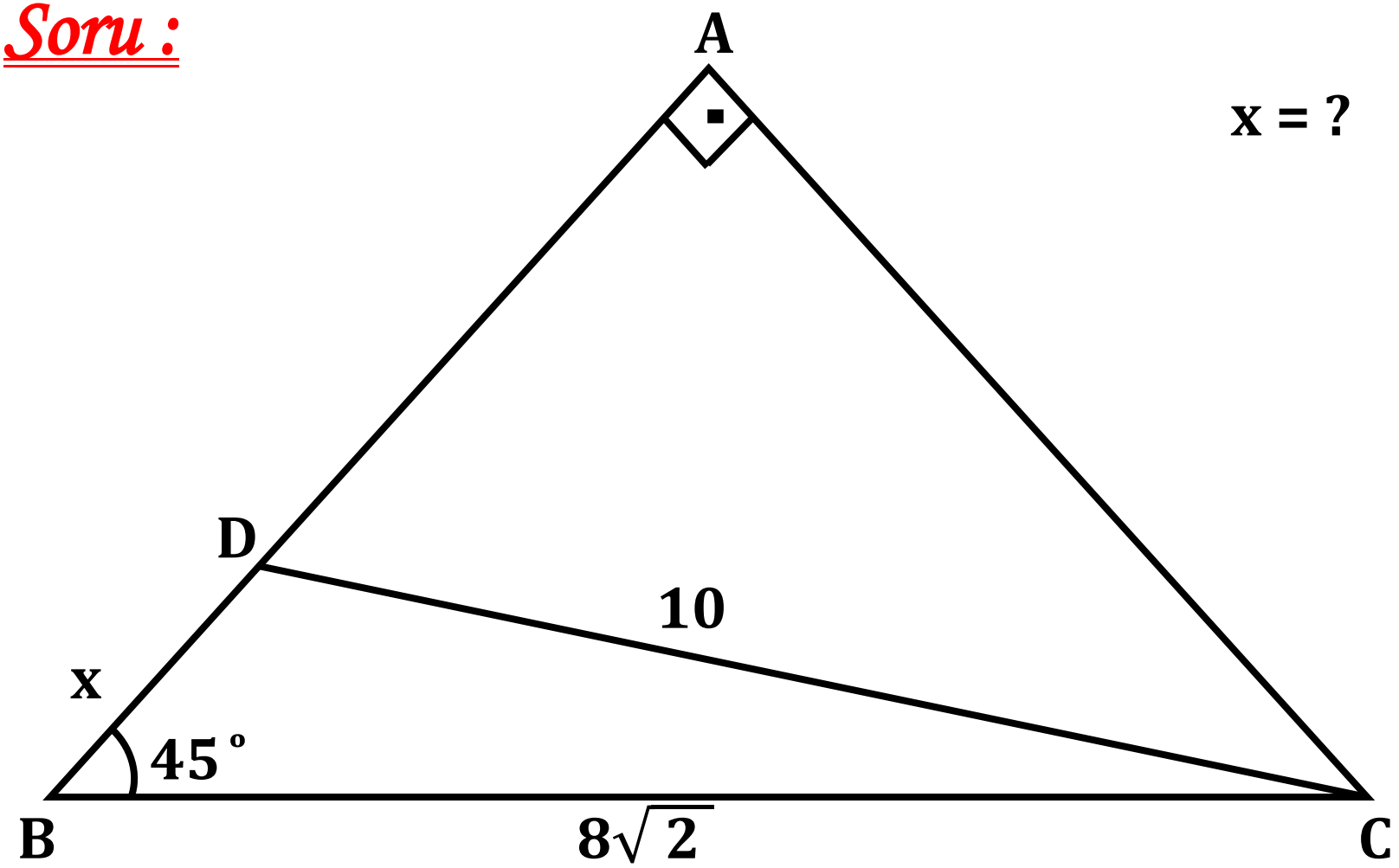
$|BC| = ?$

Soru :

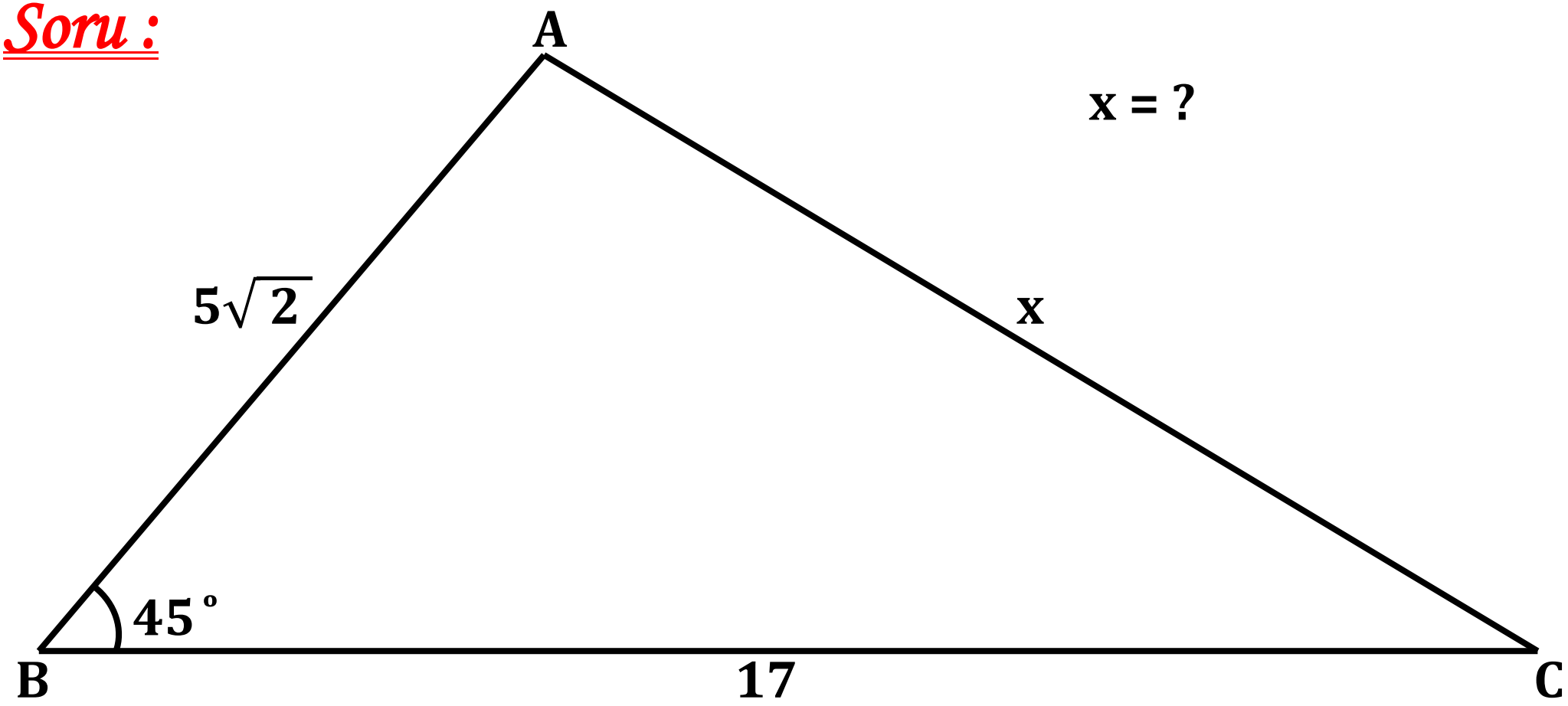
$|AB| + |BC| = ?$



Soru :

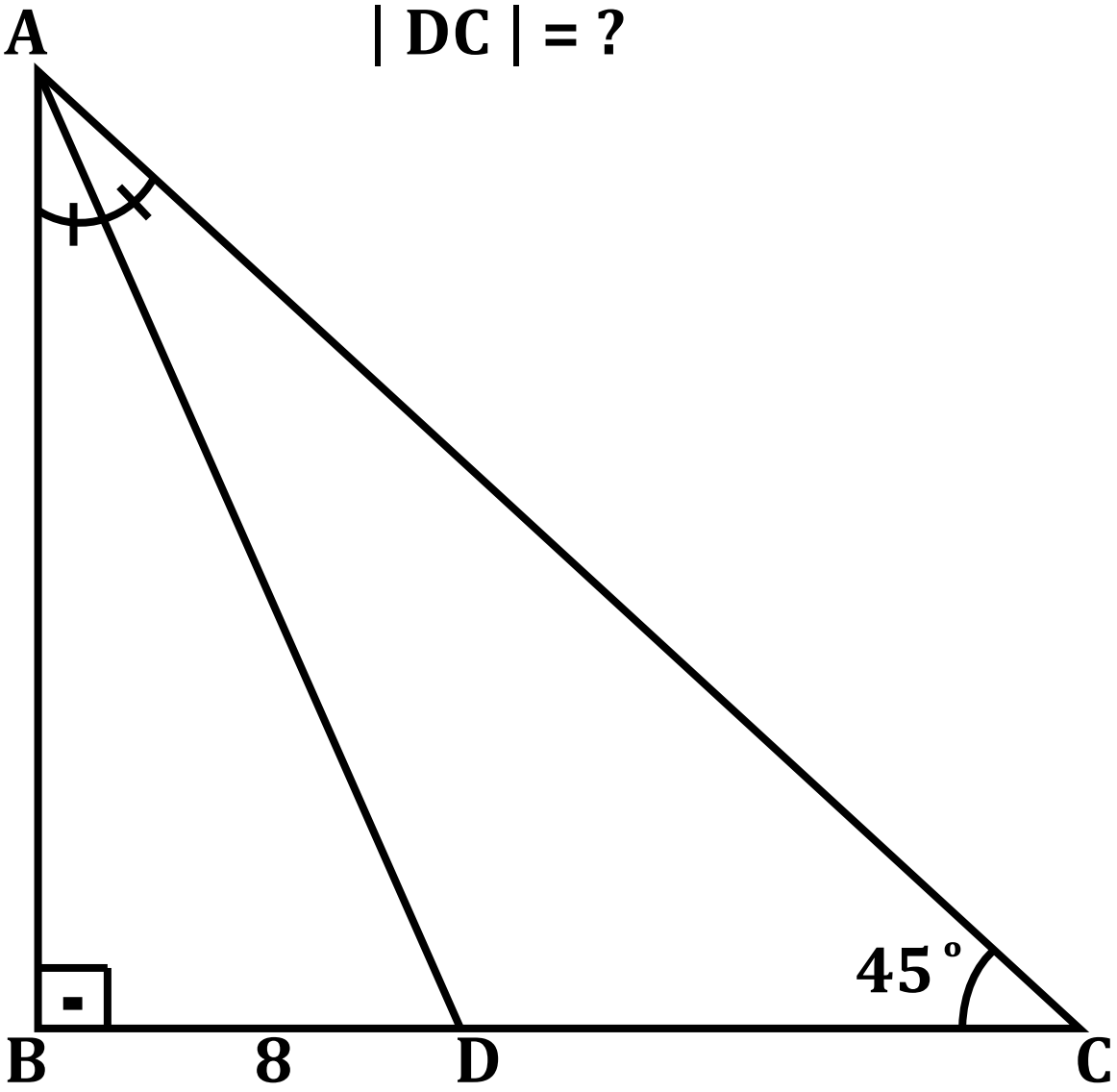


Soru :

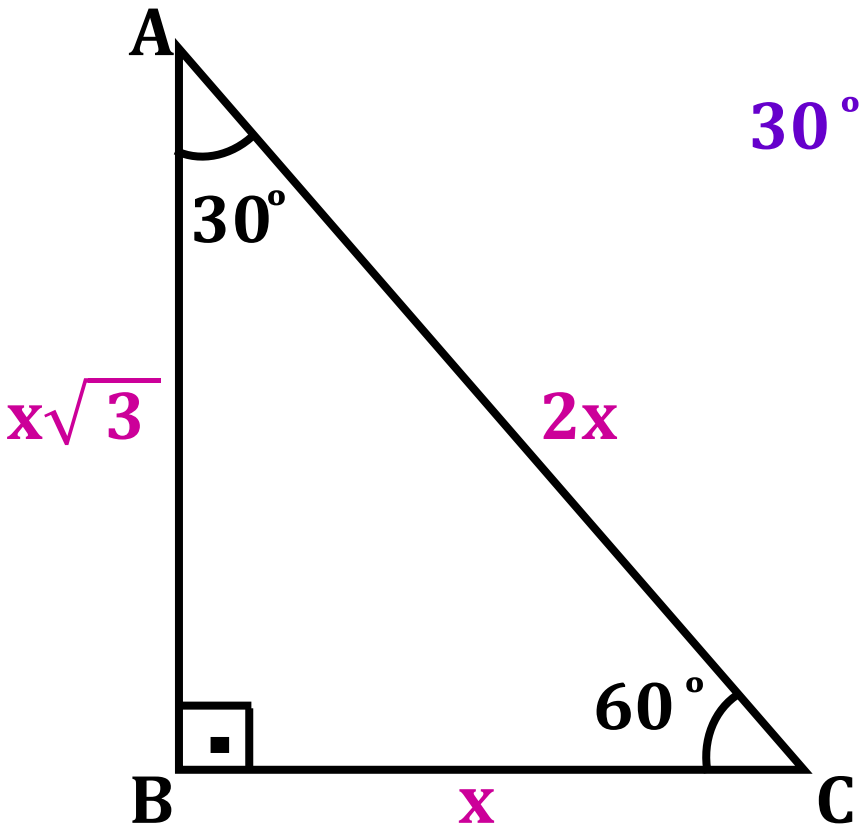


(A'dan [BC] tabanına dik indirin.)

Soru :



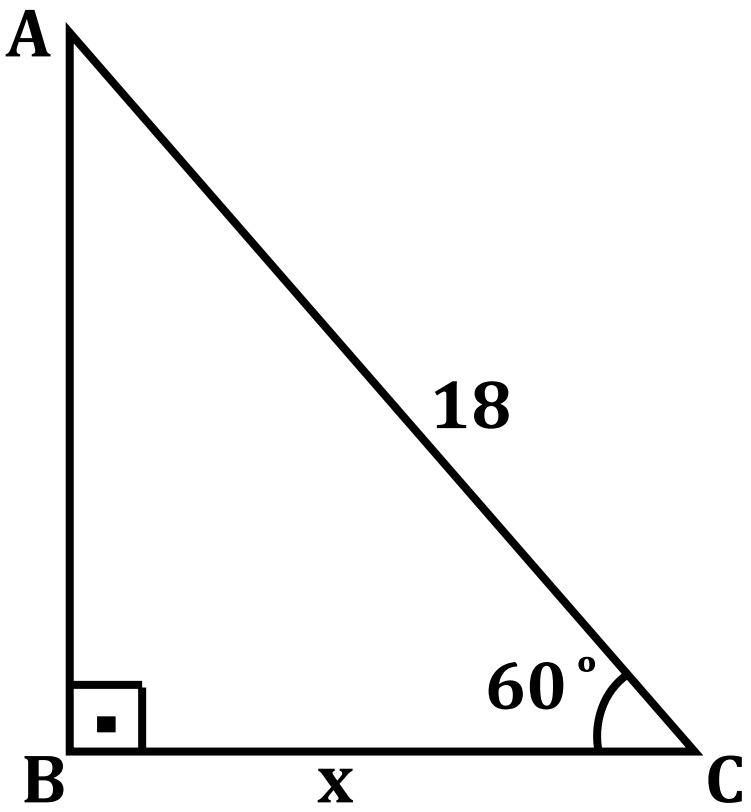
B) 30° - 60° - 90° Üçgeni :

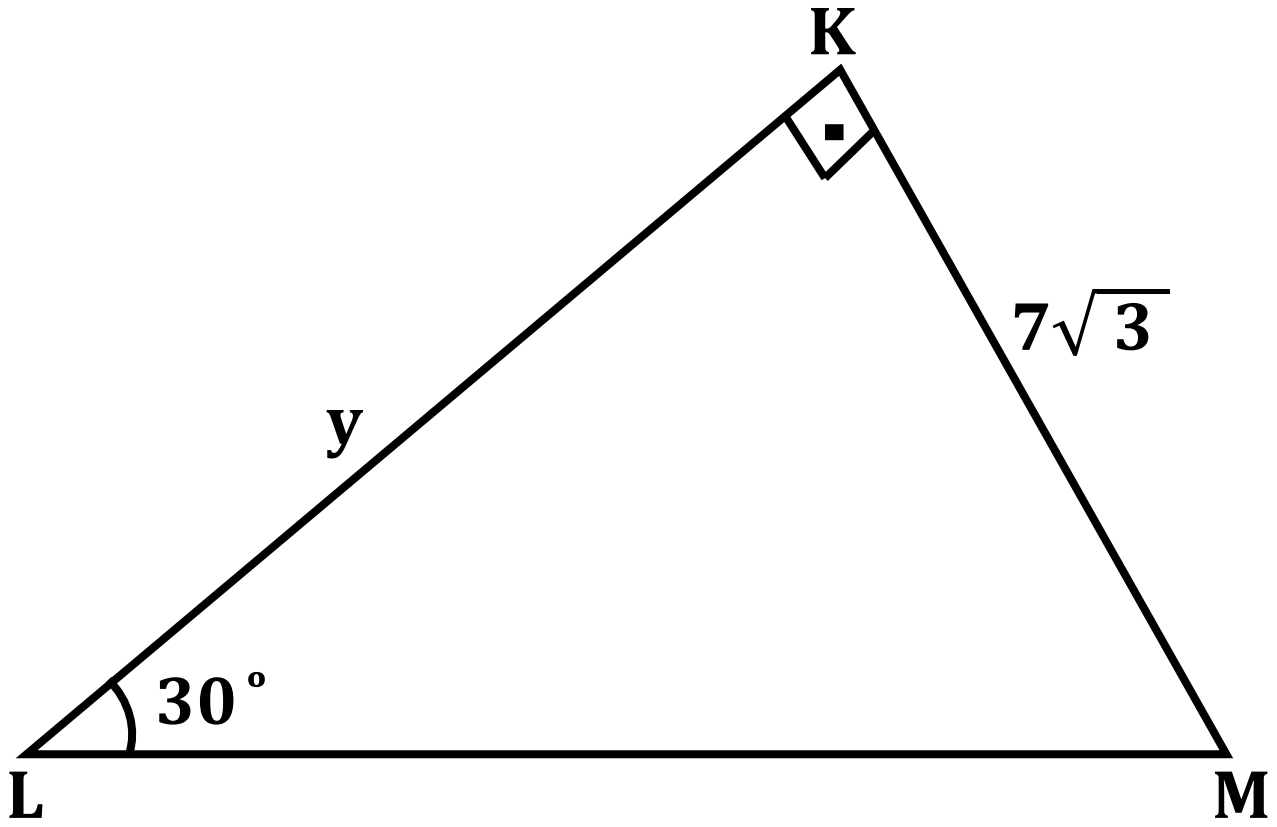


30° - 60° - 90° üçgeninde ; 90° 'yi gören kenar uzunluğu 30° 'yi gören kenar uzunluğunun 2 katı, 60° 'yi gören kenar uzunluğunu 30° 'yi gören kenar uzunluğunun $\sqrt{3}$ katıdır.

30° - 60° - 90° üçgeninde ; 30° 'yi gören kenar uzunluğu, 60° 'yi gören kenar uzunluğunun $\sqrt{3}$ ile bölümüne eşittir.

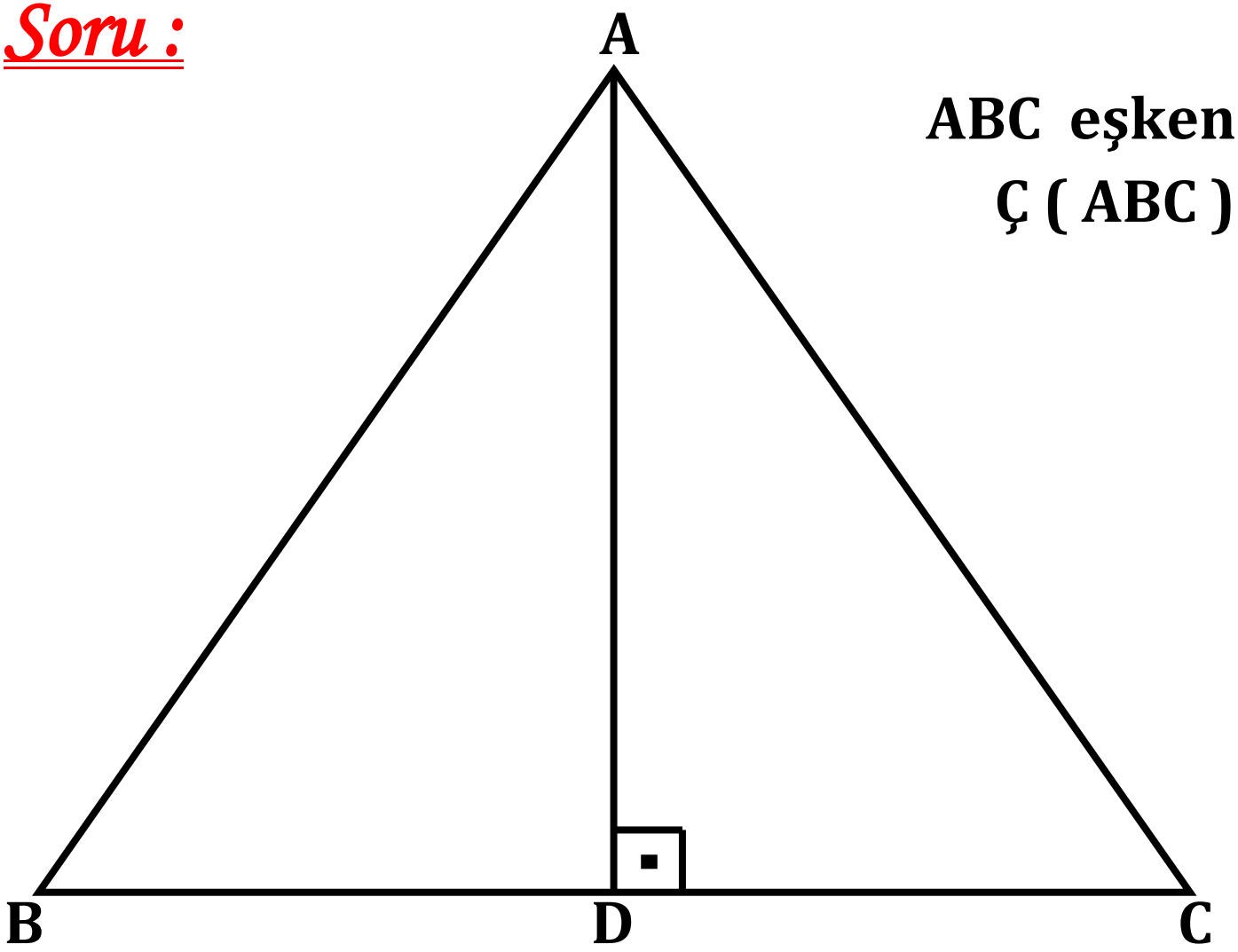
Örnek :





x + y = ?

Soru :

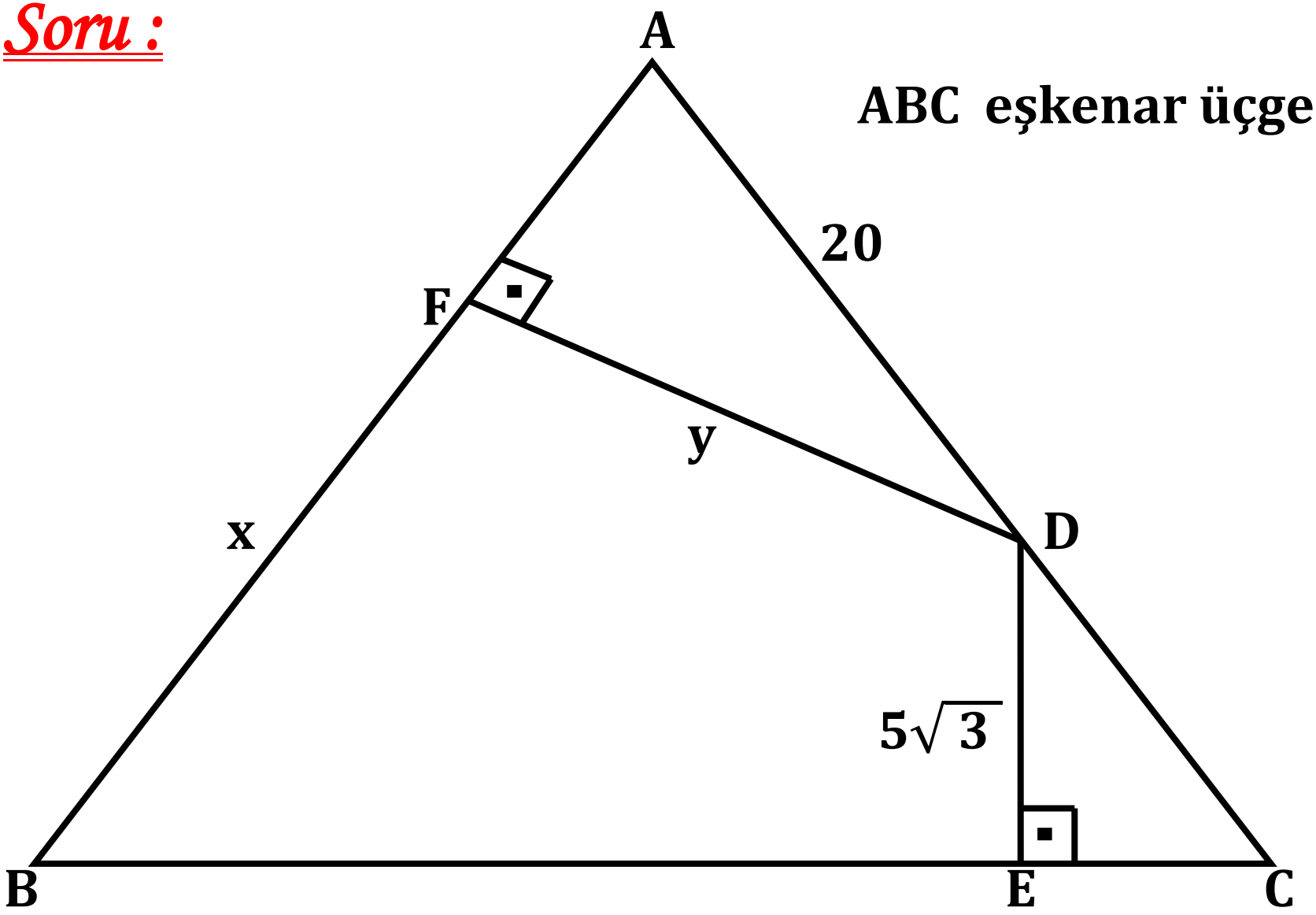


ABC eşkenar üçgen olup

Ç (ABC) = 24 br ise | AD | = ?

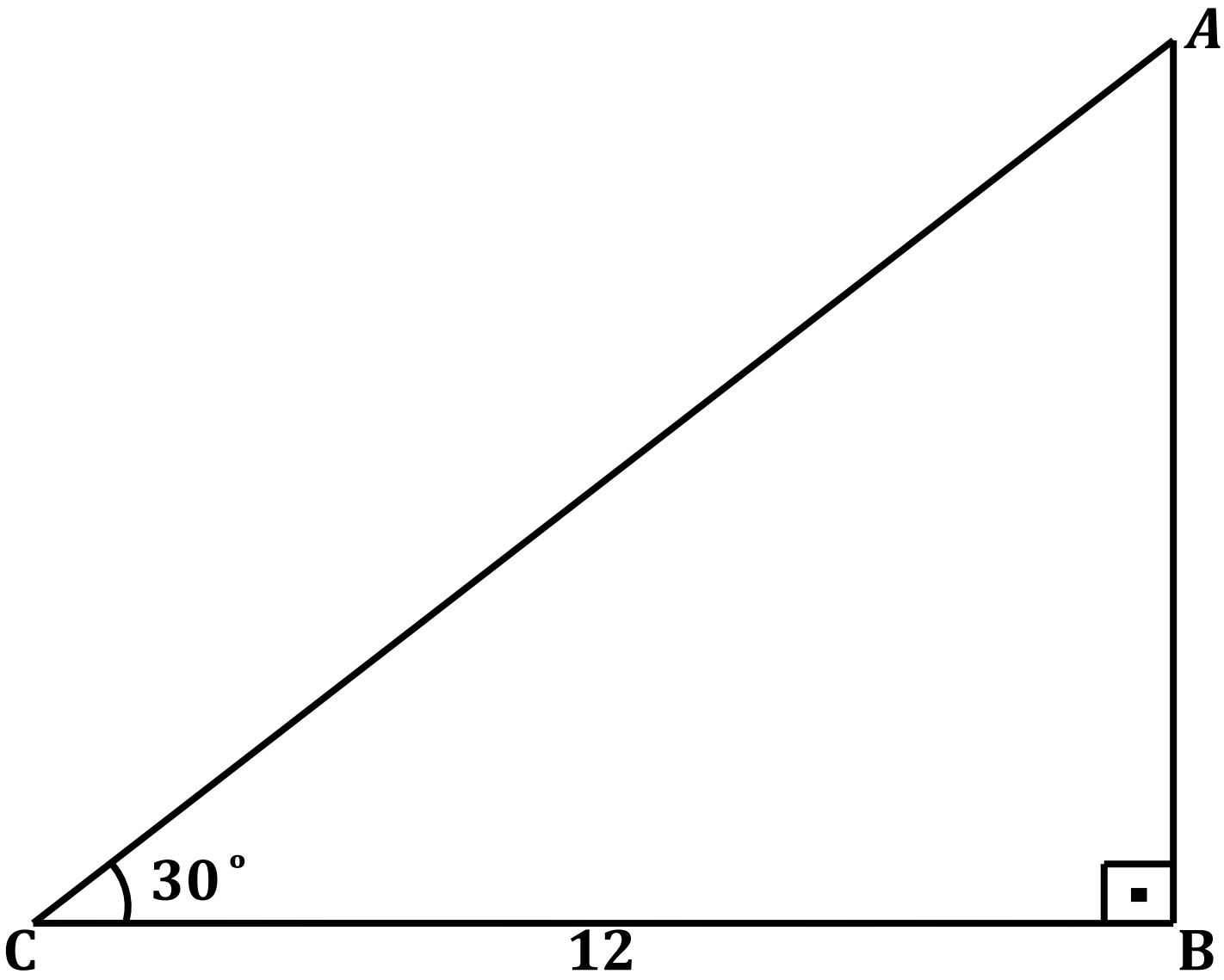
Soru :

ABC eşkenar üçgen ise x . y = ?



Soru :

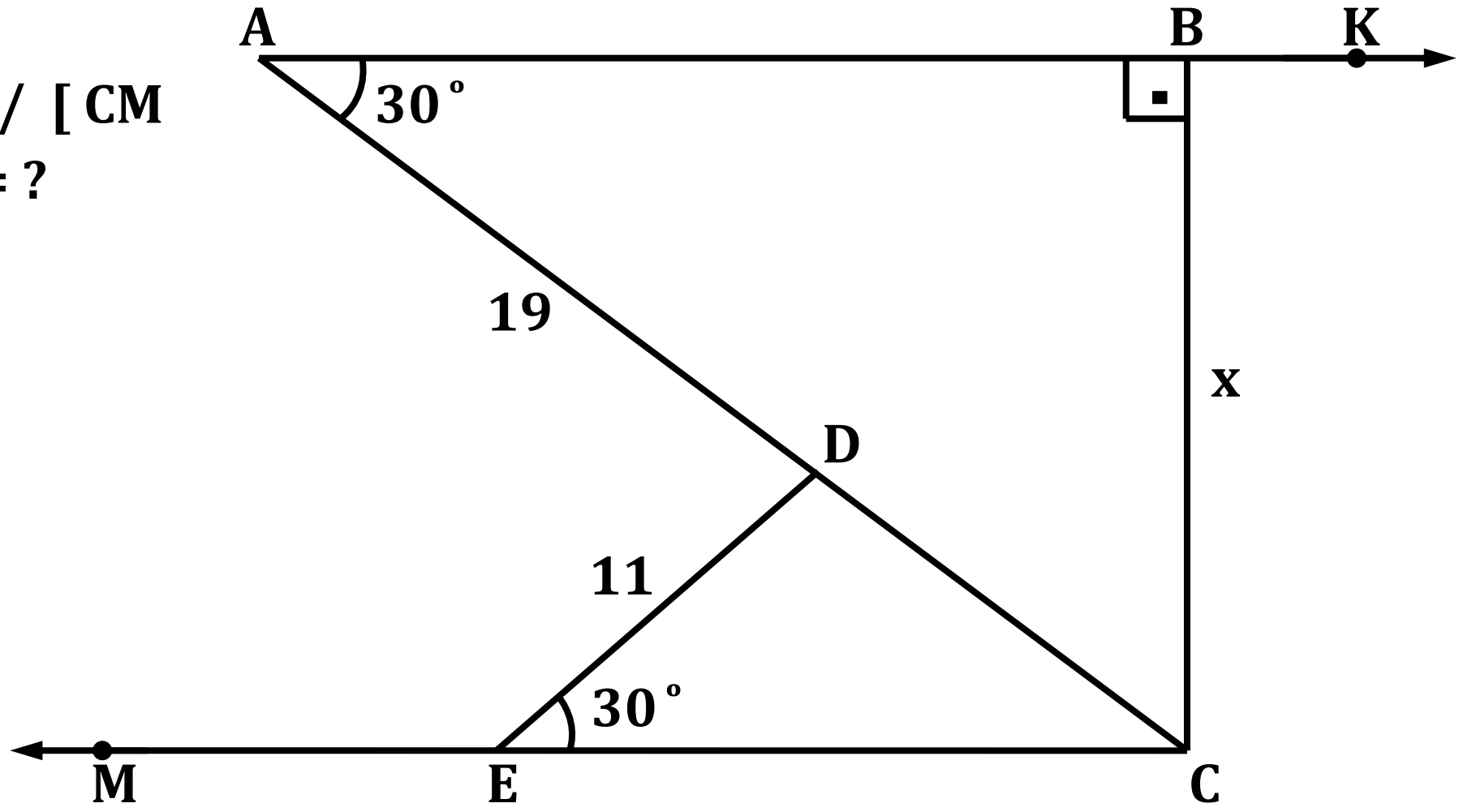
| AB | + | AC | = ?



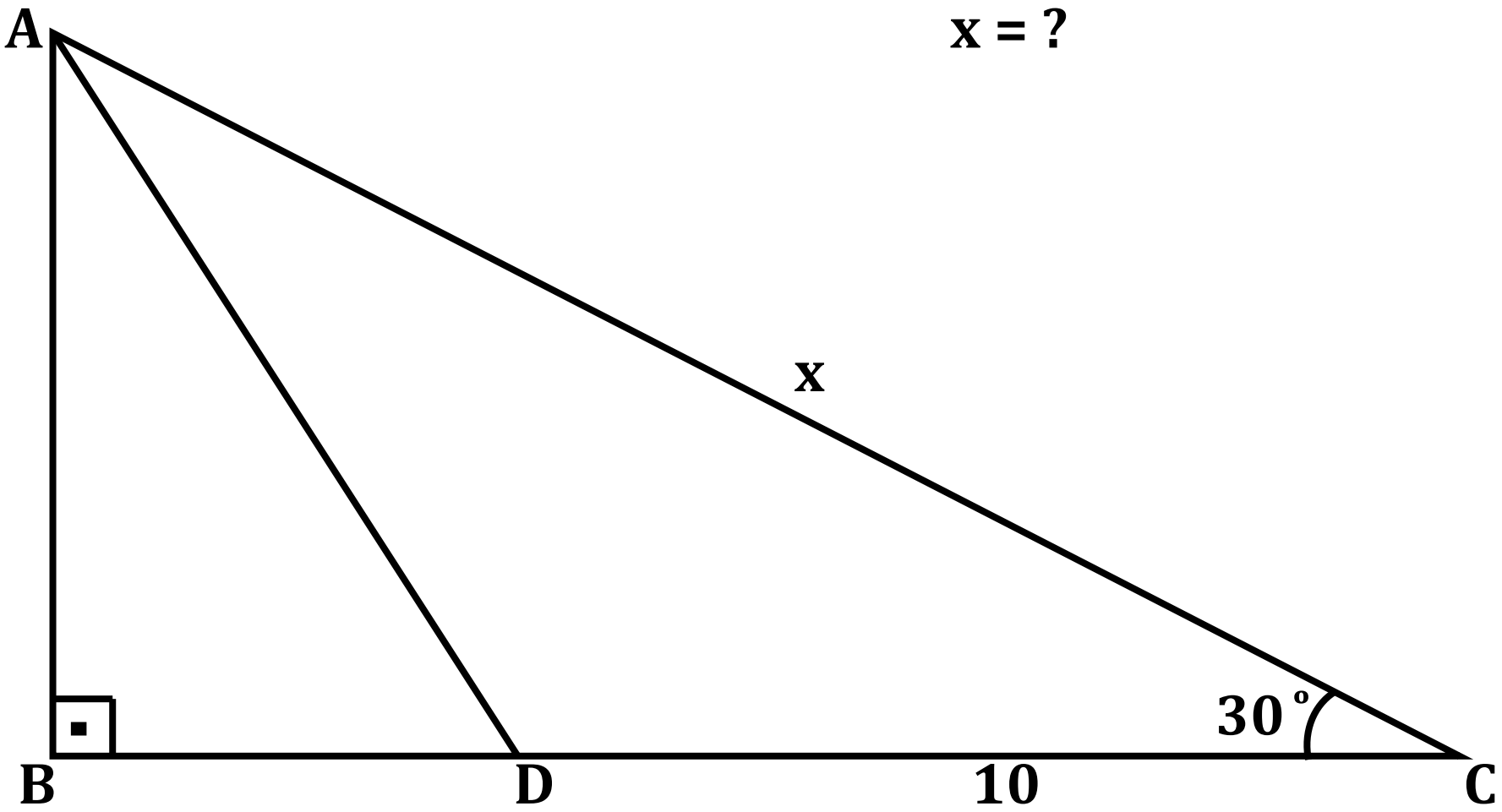
Soru :

[AK // [CM

ise x = ?

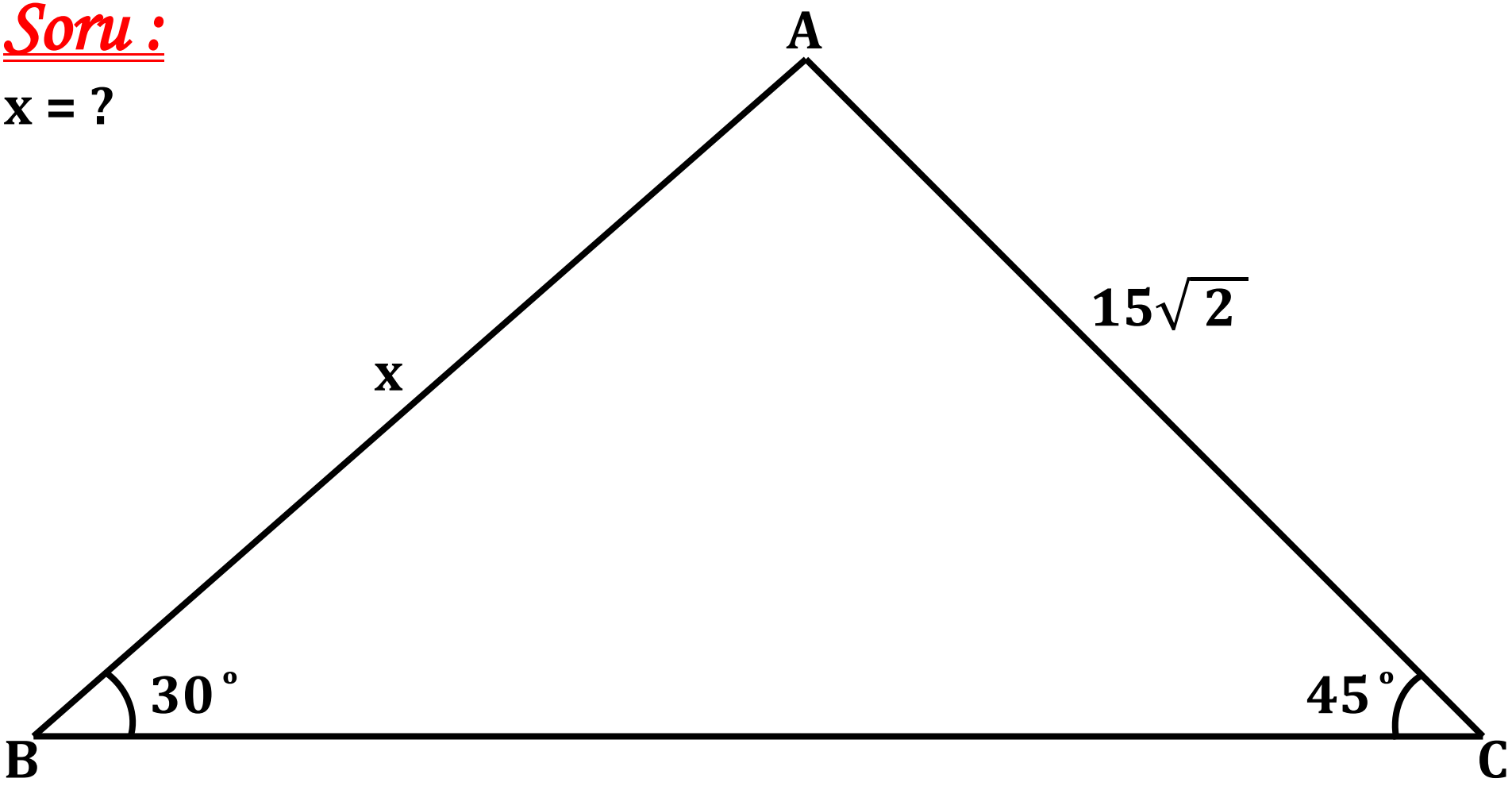


Soru :



Soru :

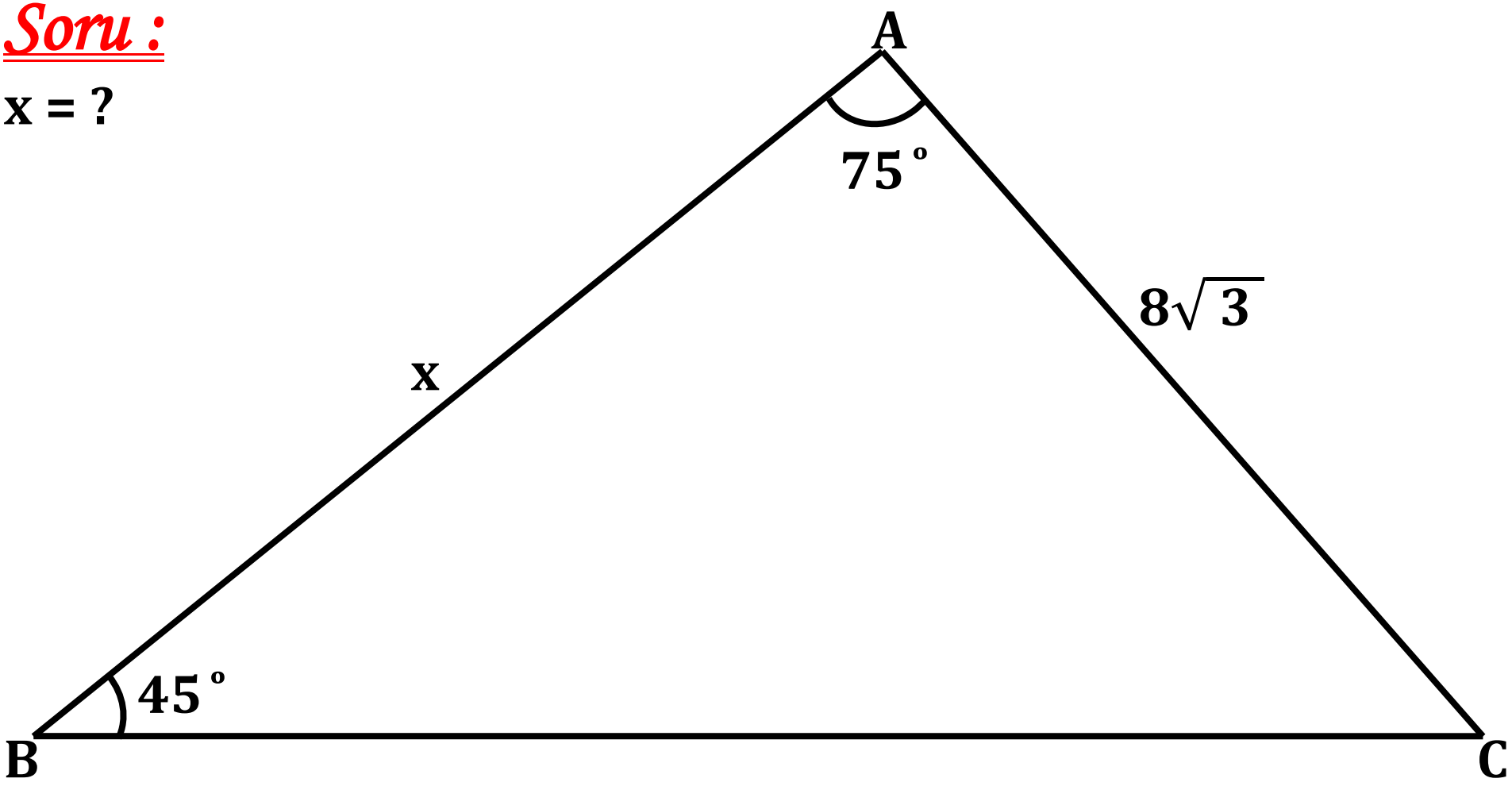
x = ?



(A ’dan [BC] tabanına dik indirin.)

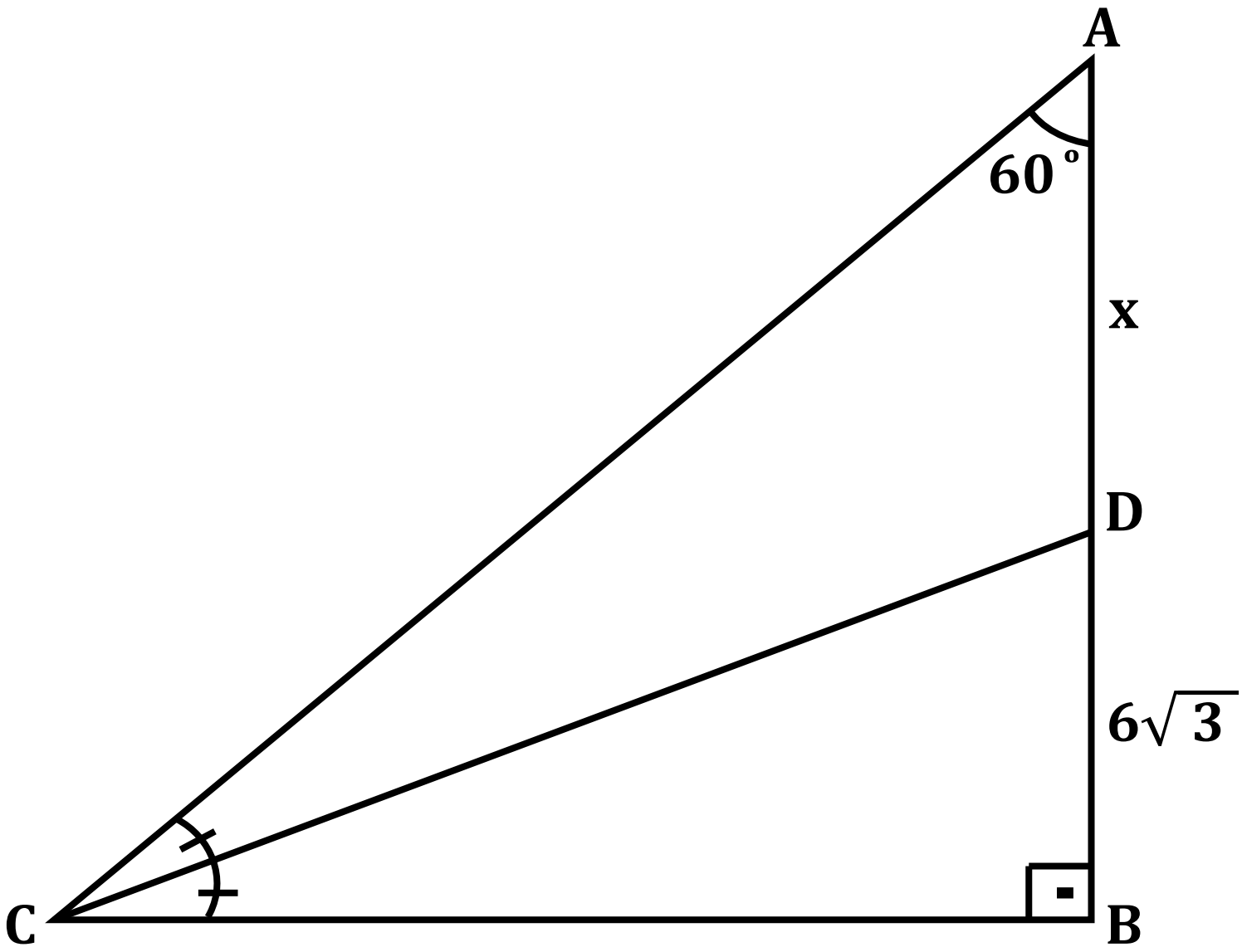
Soru :

x = ?



Soru :

x = ?



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