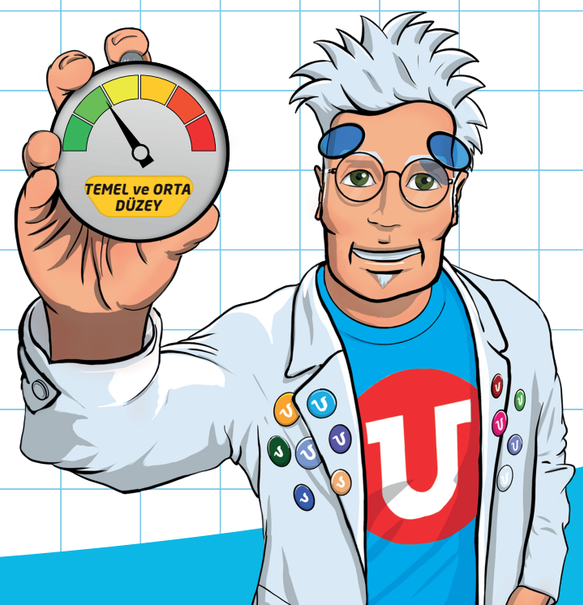
1.ÜNİTE

TYT Temel ve Orta Düzey Geometri Soru Bankası

Pisagor - Öklid

HÜSEYİN KAYA - ERSEN ÖRENLER



PİSAGOR

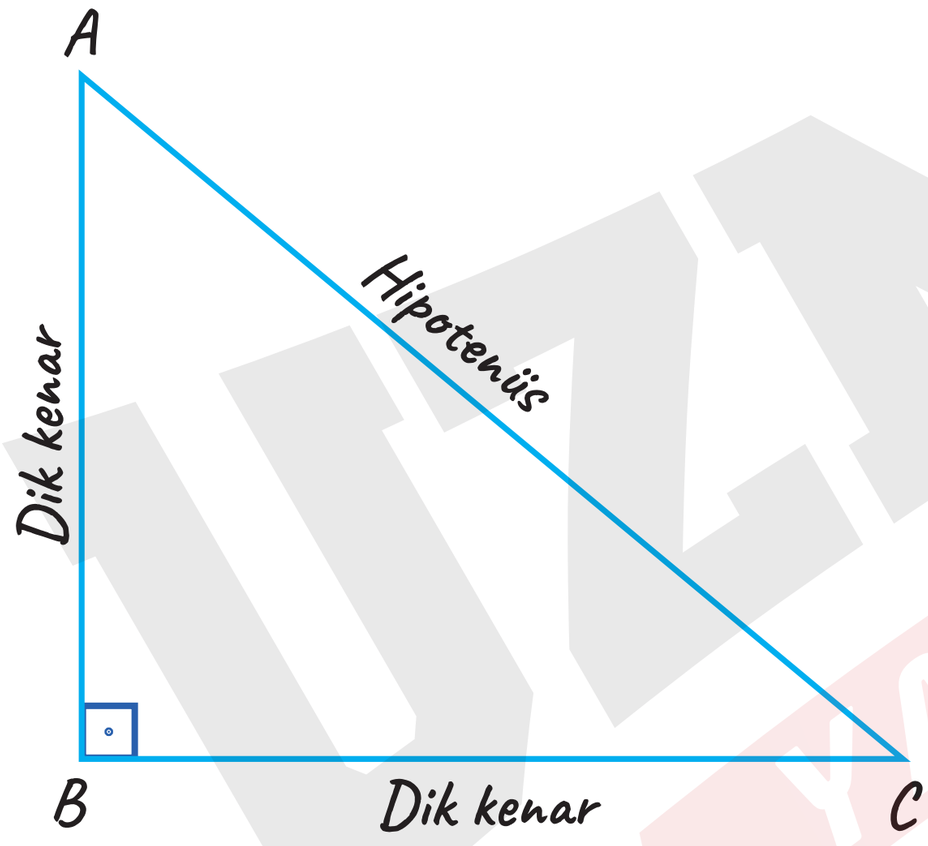
DİK ÜÇGEN

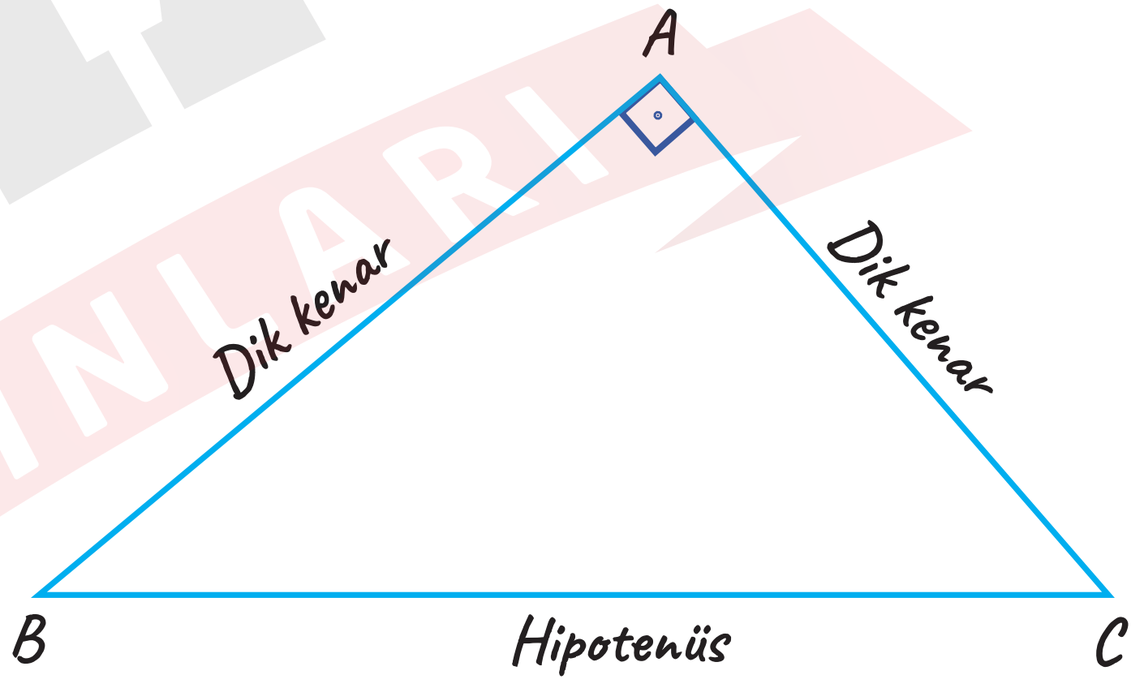
PİSAGOR BAĞINTISI

ÖKLİD BAĞINTILARIGÖRE ÖZEL DİK ÜÇGENLER

Dik Üçgen:

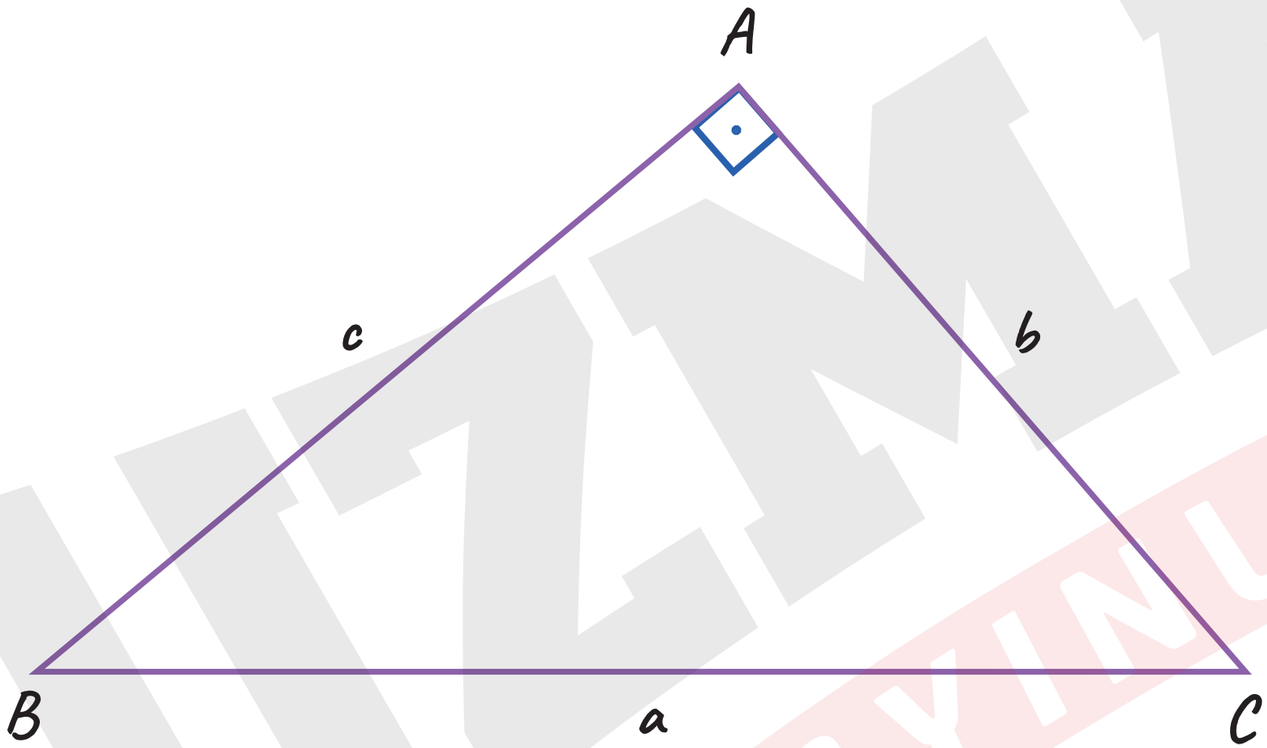
➜ Bir açısı 90° olan üçgene diküçgen denir. Dik açının karşısındaki kenara hipotenüs, diğer kenarlara dik kenarlar denir.





Pisagor Bağıntısı:

➜ Diküçgende dik kenarların kareleri toplamı hipotenüsün karesine eşittir.



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

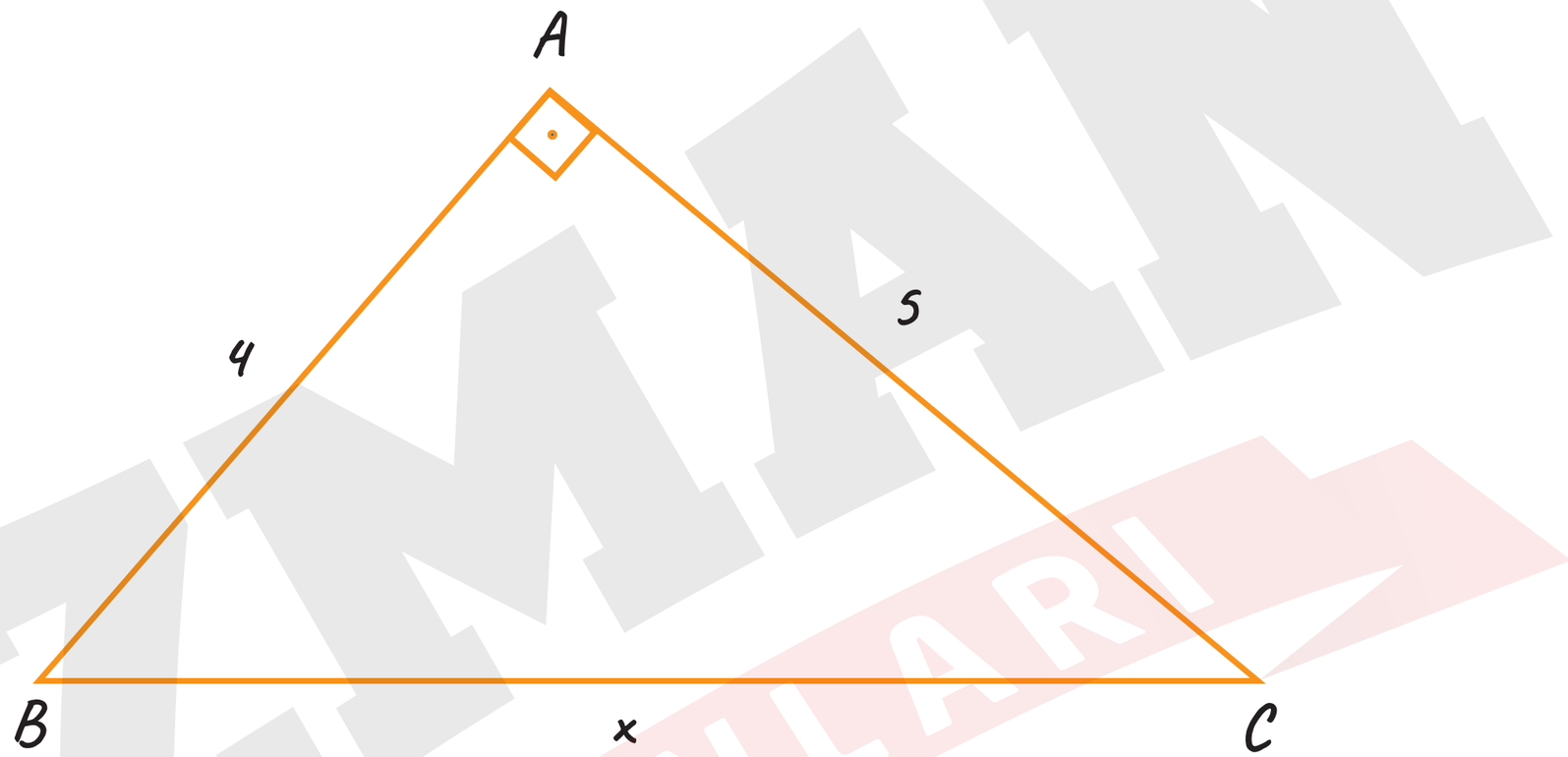
Örnek:

ABC bir dik üçgen

[AB] ⊥ [AC]

|AB| = 4 cm

|AC| = 5 cm ise



|BC| = x kaç cm dir?

Örnek:

ABC ve ACD birer dik üçgen

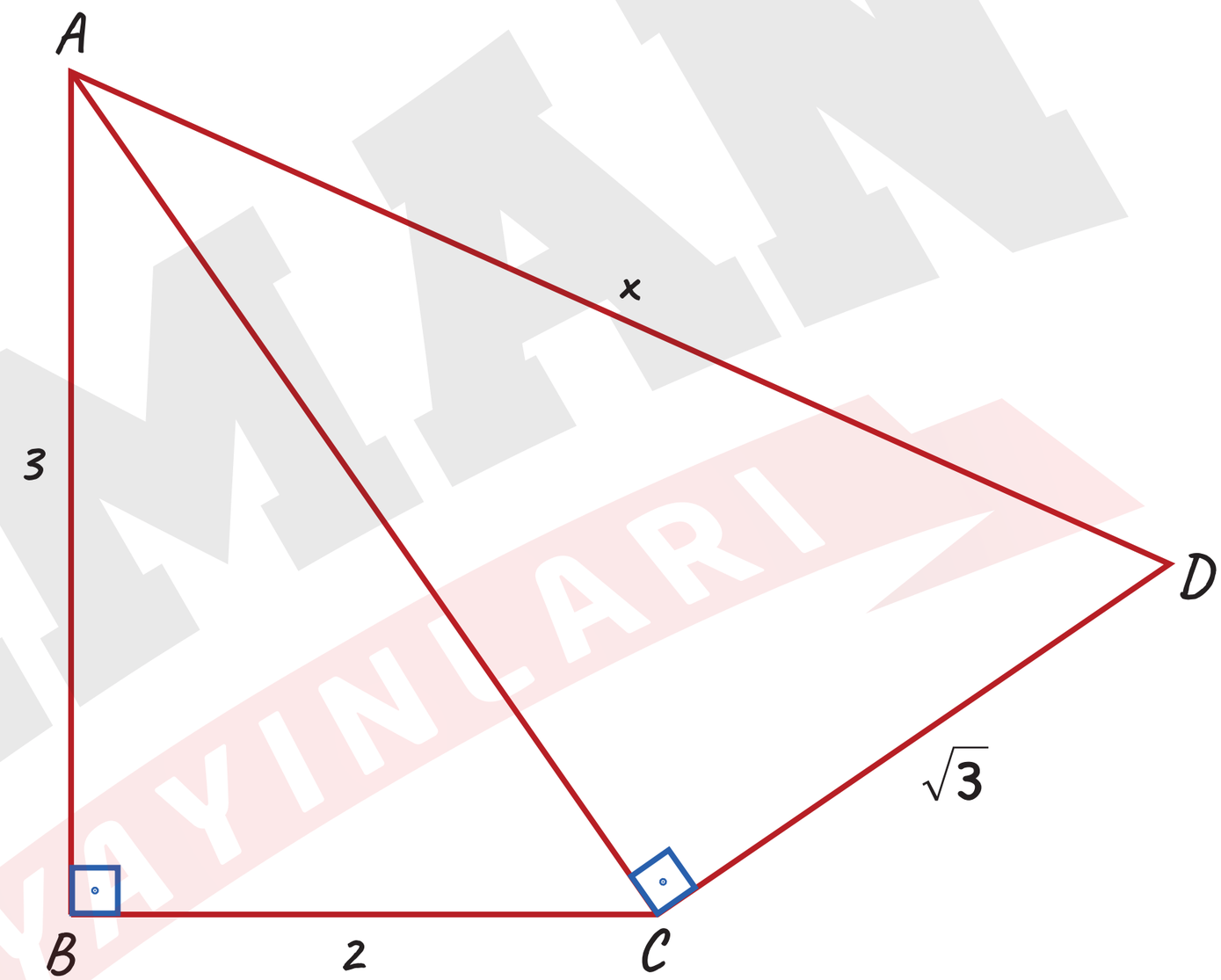
$[AB] \perp [BC]$

$[AC] \perp [CD]$

$|AB| = 3$ cm

$|BC| = 2$ cm

$|DC| = \sqrt{3}$ cm ise



$|AD| = x$ kaç cm dir?

Örnek:

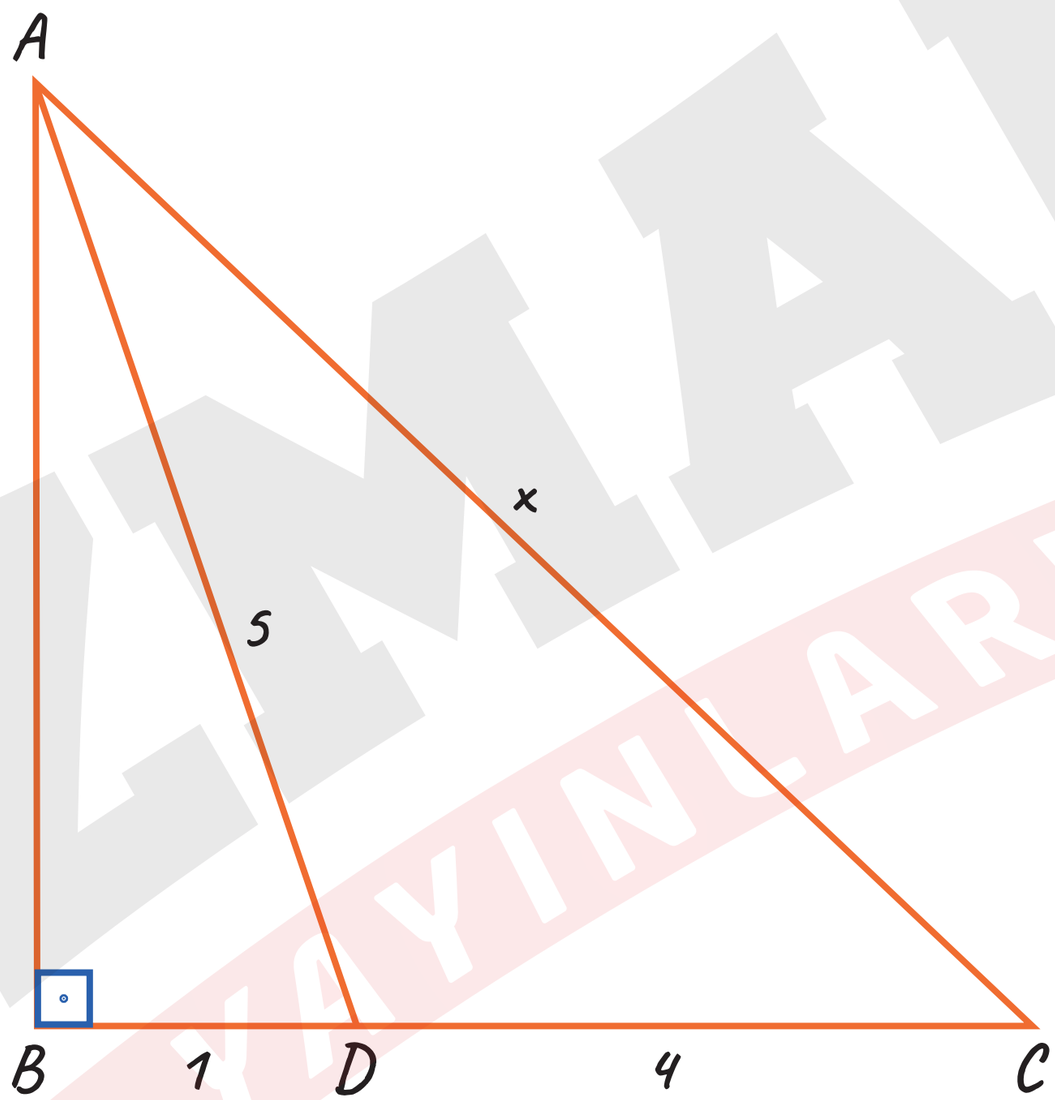
ABC bir dik üçgen

[AB] ⊥ [BC]

|BD| = 1 cm

|DC| = 4 cm

|AD| = 5 cm ise



|AC| = x kaç cm dir?

Örnek:

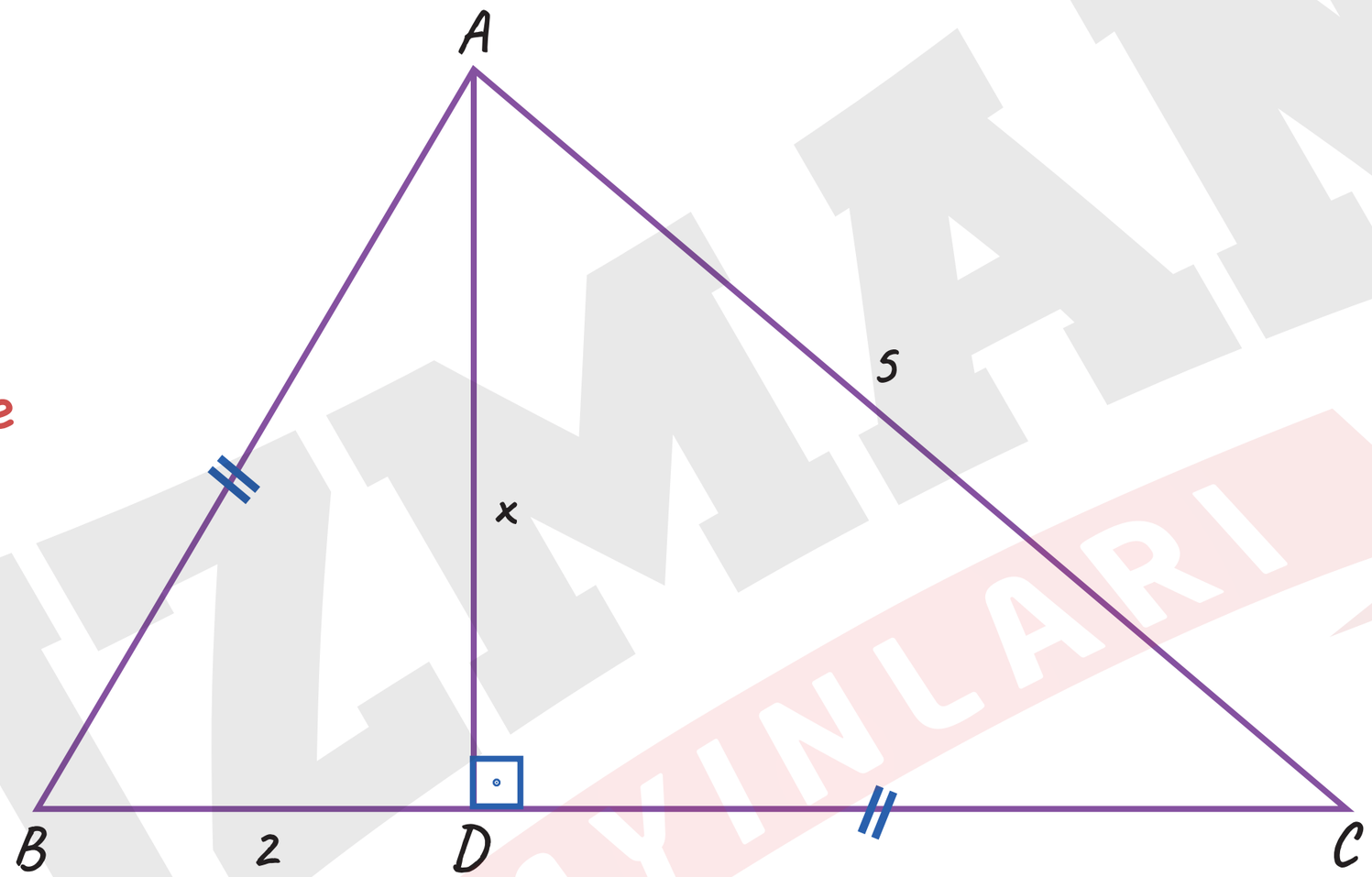
ABC bir üçgen

[AD] ⊥ [BC]

|AB| = |DC|

|BD| = 2 cm

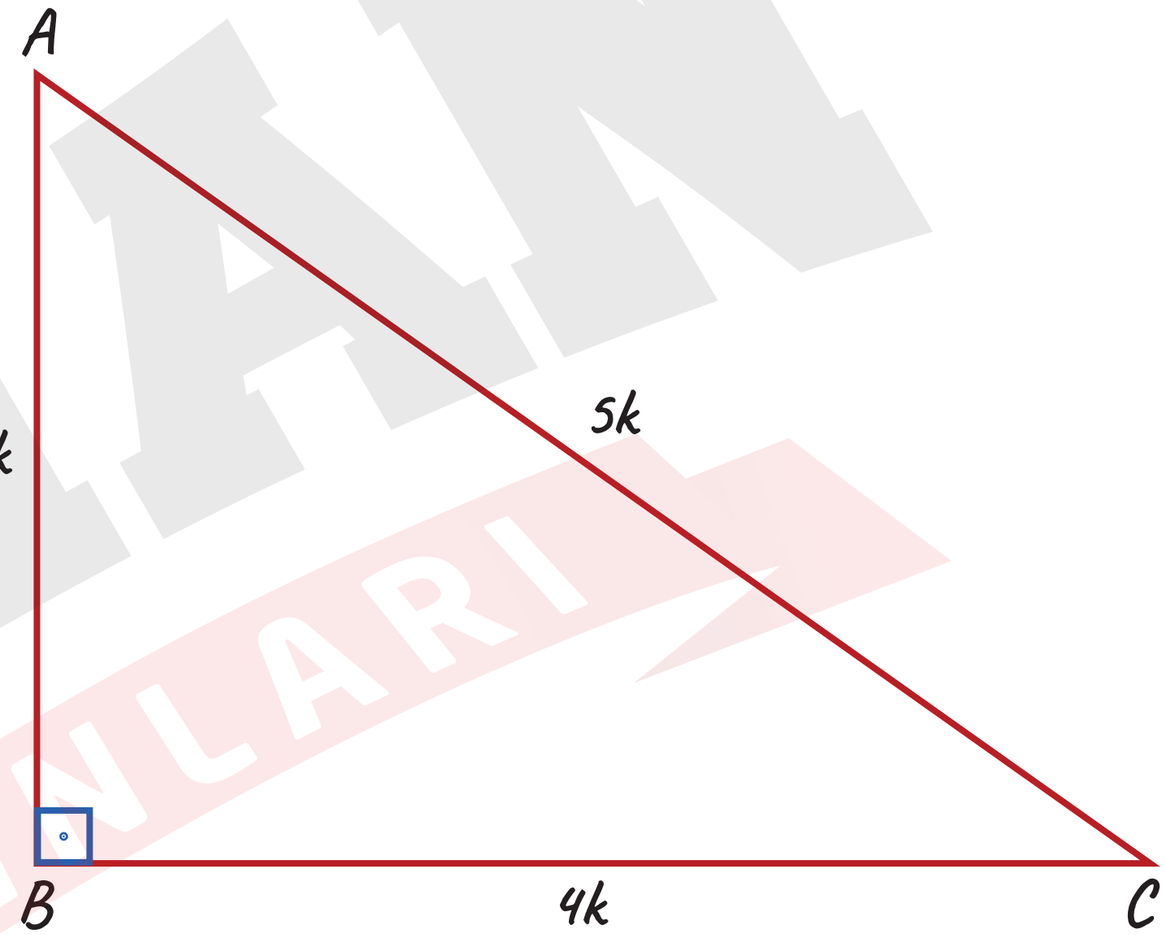
|AC| = 5 cm ise



|AD| = x kaç cm dir?

Kenarlarına Göre Özel Dik Üçgenler

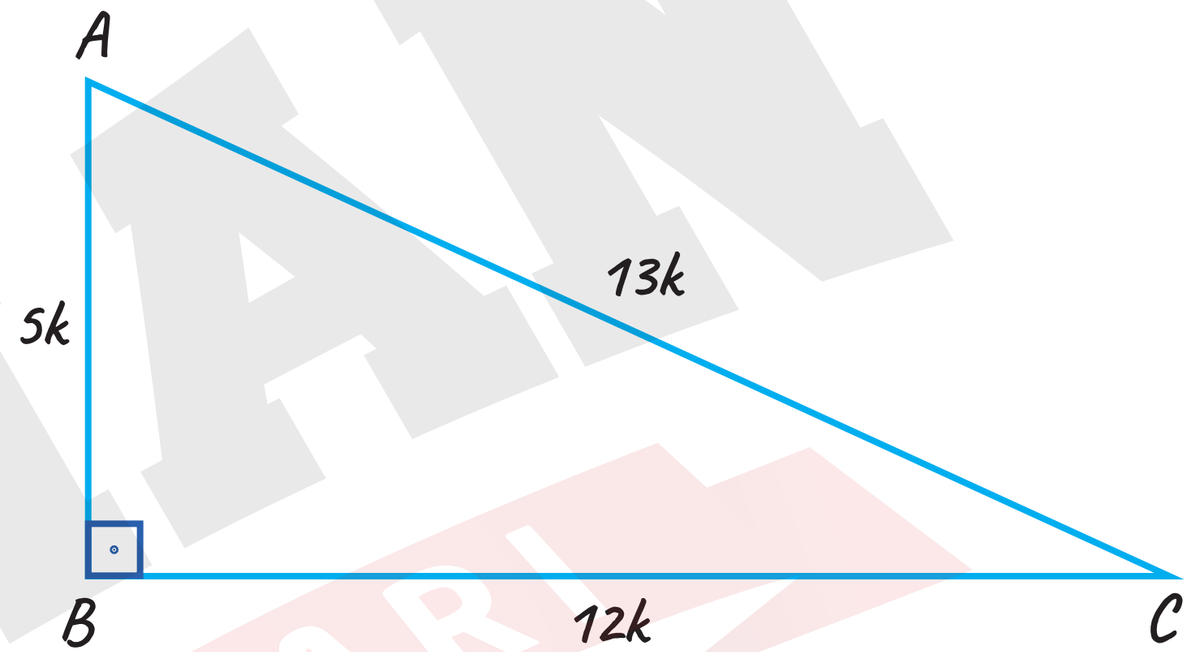
- k = 1 ise 3 - 4 - 5
- k = 2 ise 6 - 8 - 10
- k = 3 ise 9 - 12 - 15
- k = 4 ise 12 - 16 - 20
- k = 5 ise 15 - 20 - 25
- ⋮ ⋮ ⋮



➜ k = 1 ise 5 - 12 - 13

k = 2 ise 10 - 24 - 26

⋮ ⋮ ⋮ ⋮ ⋮ ⋮



Örnek:

ABC ve BCD birer dik üçgen

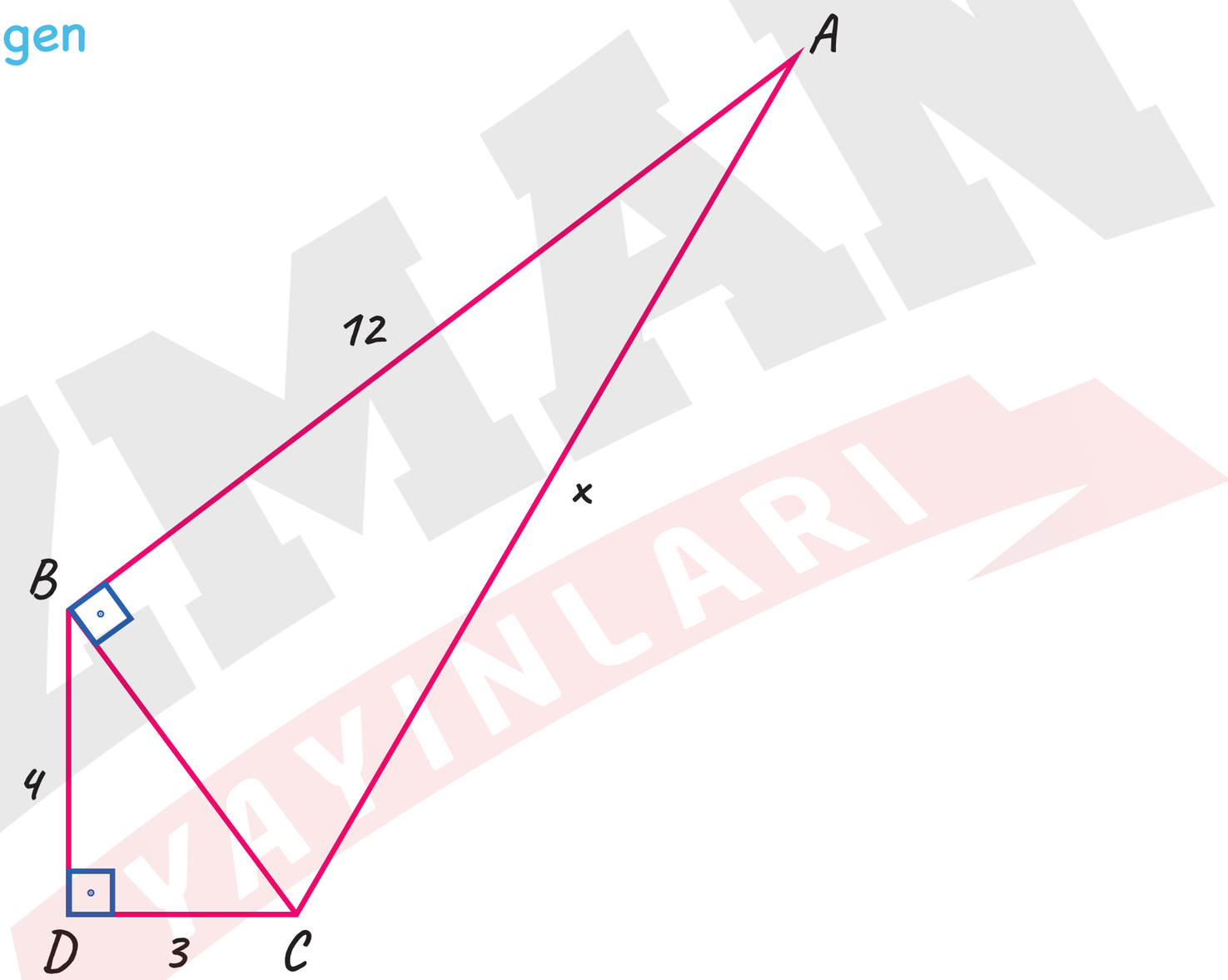
[AB] ⊥ [BC]

[BD] ⊥ [DC]

|DC| = 3 cm

|BD| = 4 cm

|AB| = 12 cm ise

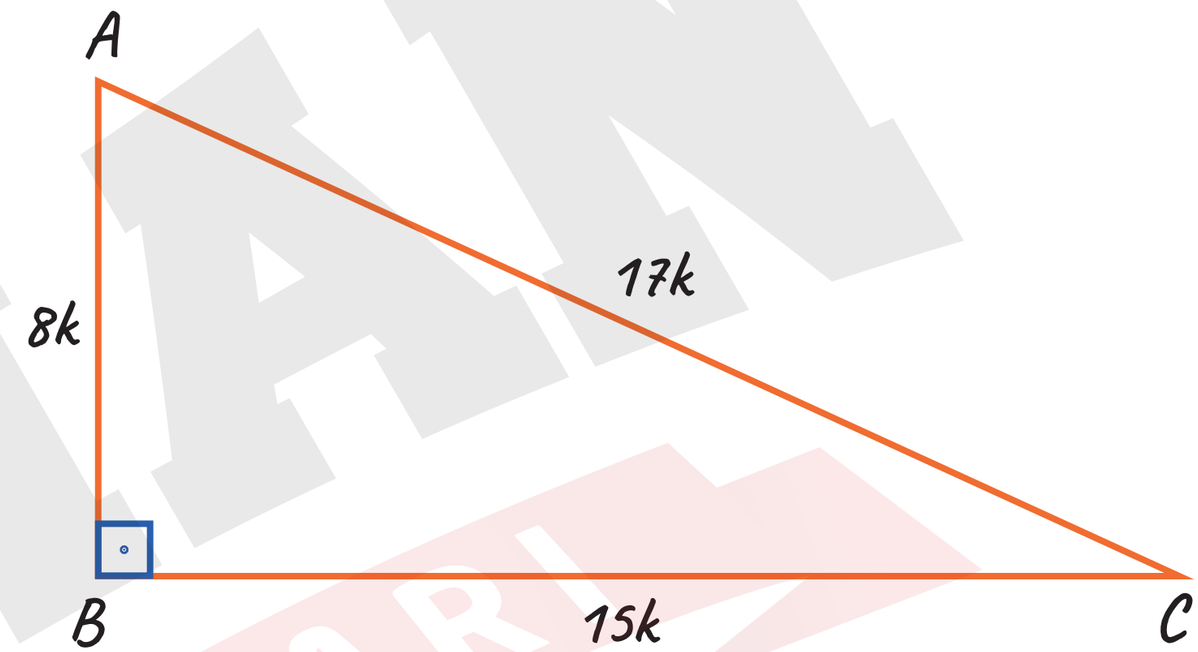


|AC| = x kaç cm dir?

➜ k = 1 ise 8 - 15 - 17

k = 2 ise 16 - 30 - 34

⋮ ⋮ ⋮ ⋮ ⋮ ⋮



Örnek:

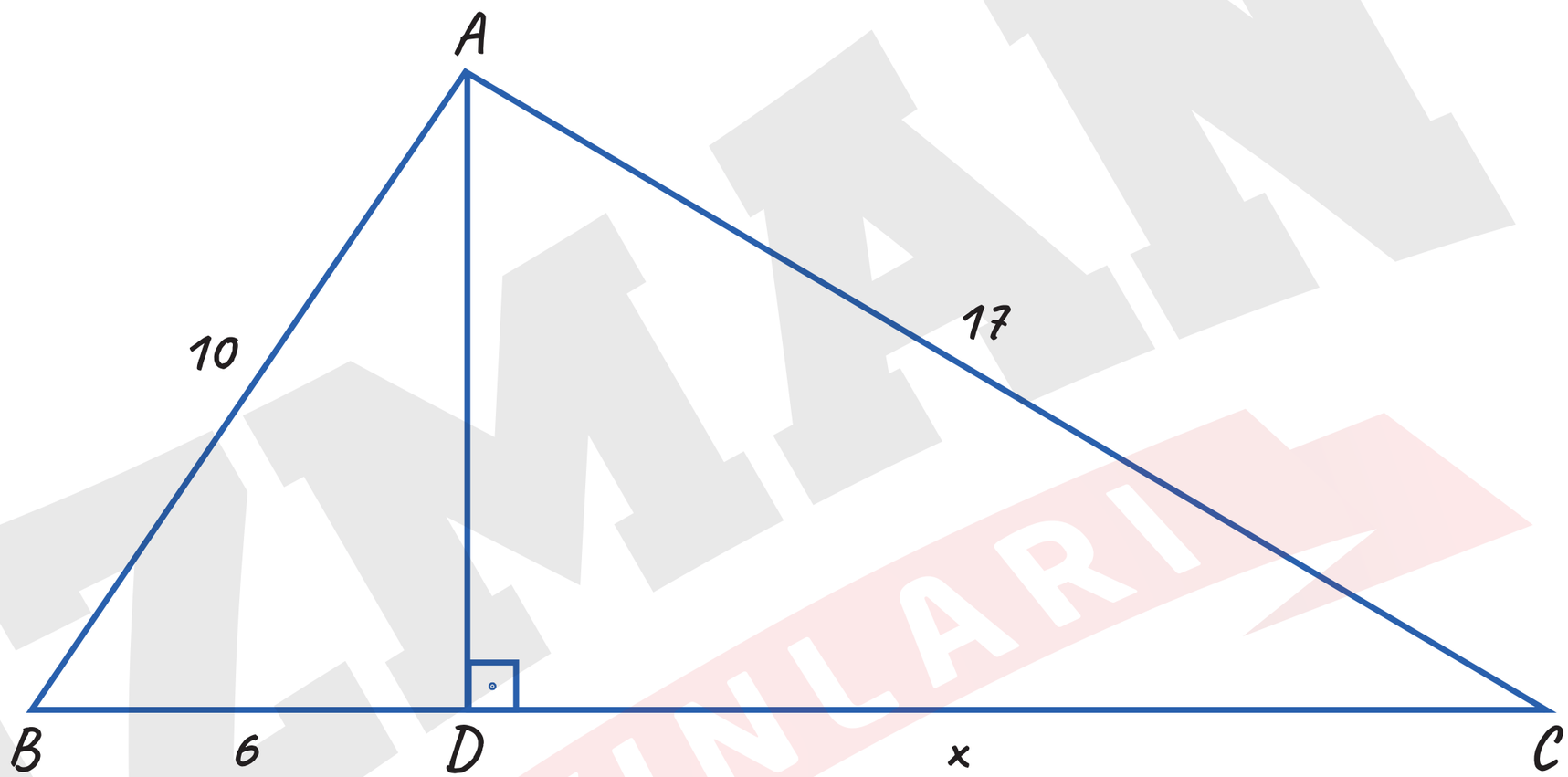
ABC bir üçgen

[AD] ⊥ [BC]

|BD| = 6 cm

|AB| = 10 cm

|AC| = 17 cm ise



|DC| = x kaç cm dir?

➜ k = 1 ise 7 - 24 - 25

k = 2 ise 14 - 48 - 50

⋮ ⋮ ⋮ ⋮ ⋮ ⋮

Örnek:

ABC ve ADE birer dik üçgen

[AB] ⊥ [BC]

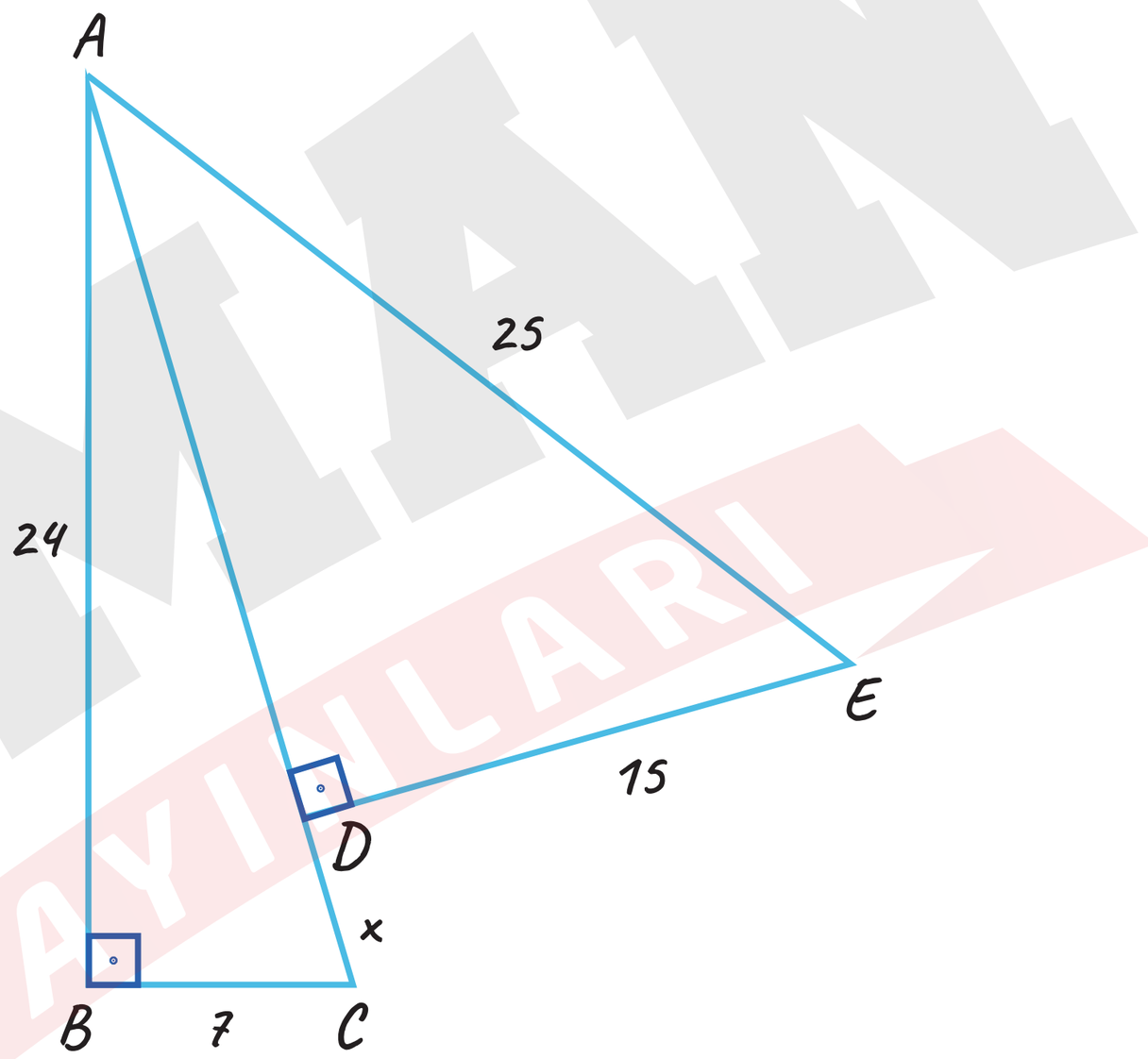
[DE] ⊥ [AC]

|BC| = 87 cm

|DE| = 15 cm

|AB| = 24 cm

|AE| = 25 cm ise



|DC| = x kaç cm dir?

Örnek:

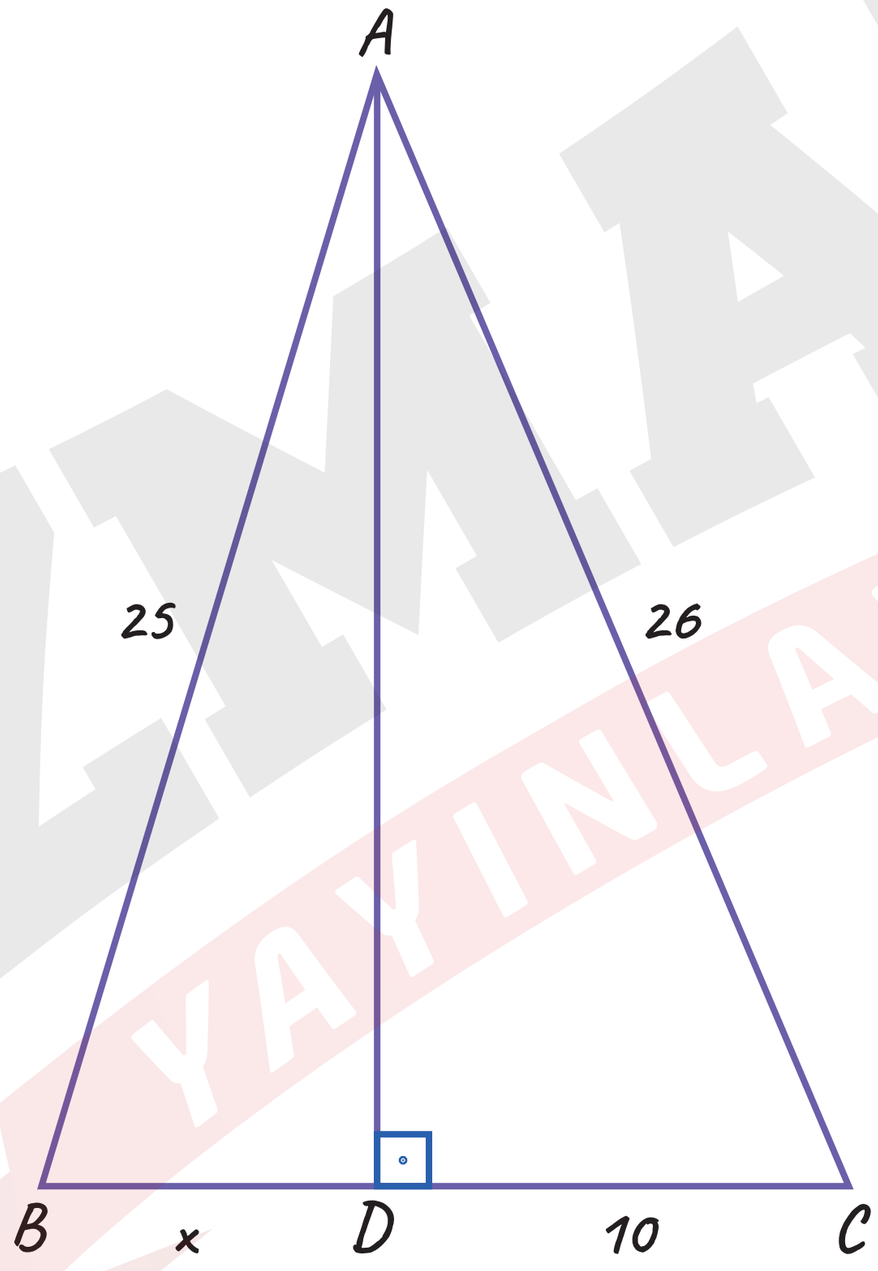
ABC bir üçgen

[AD] ⊥ [BC]

|DC| = 10 cm

|AB| = 25 cm

|AC| = 26 cm ise



|BD| = x kaç cm dir?

Örnek:

ABC ve DCE birer dik üçgen

[AB] ⊥ [BC]

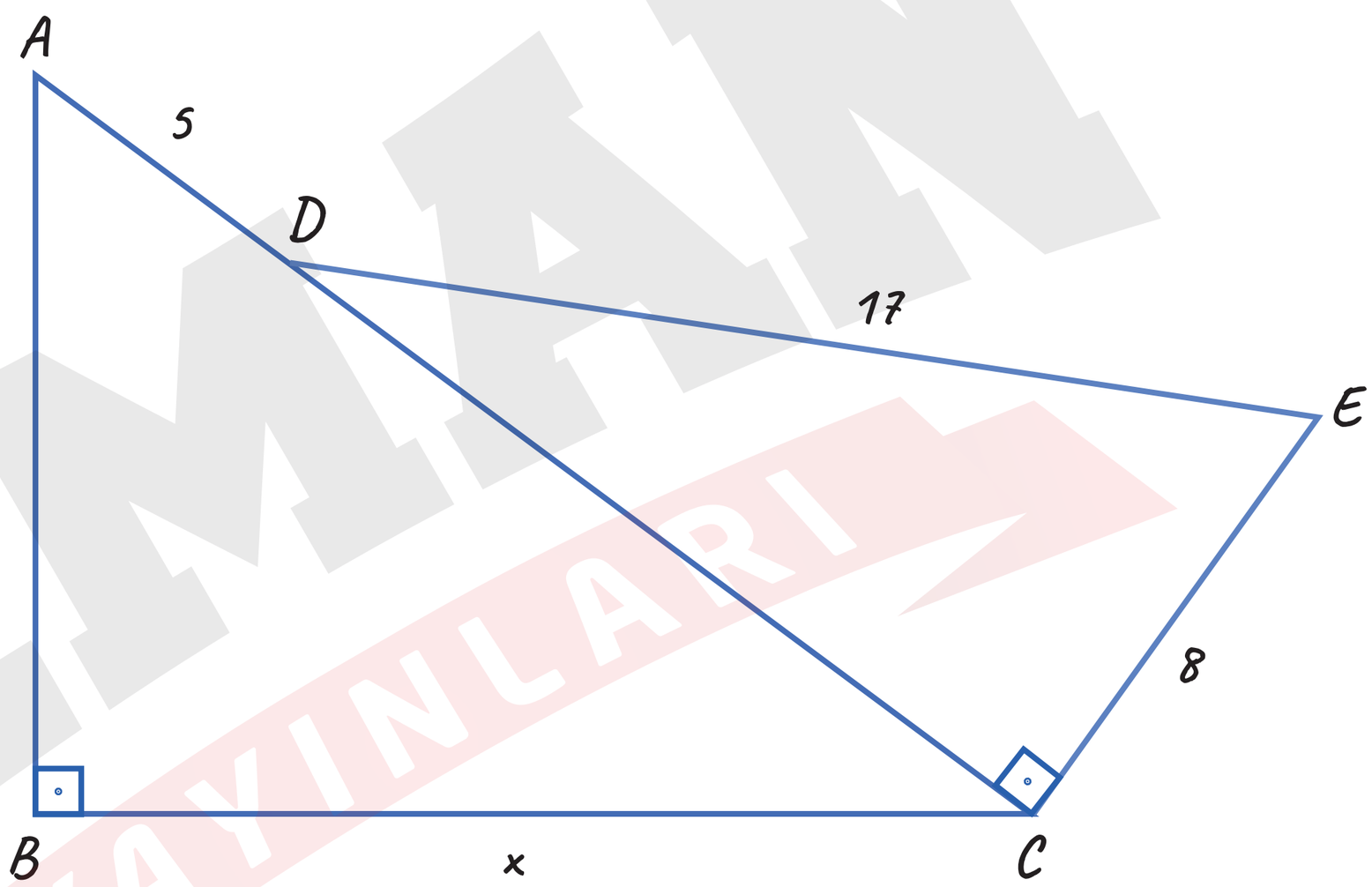
[EC] ⊥ [AC]

|DC| = |AB| + 3

|AD| = 5 cm

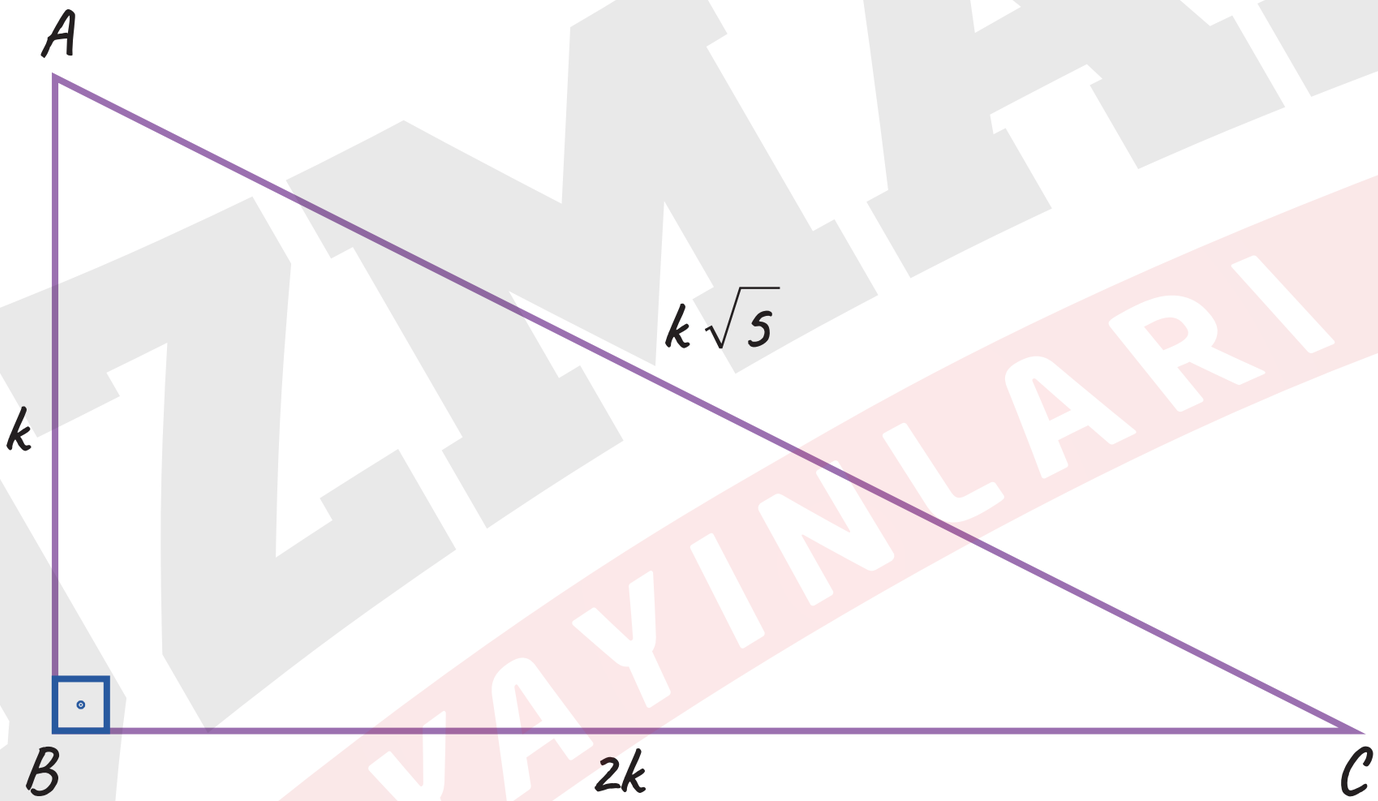
|CE| = 8 cm

|DE| = 17 cm



Yukarıdaki verilere göre, |BC| = x kaç cm dir?

➜ Dik kenarları arasında $\frac{1}{2}$ oranı olan dik üçgende hipotenüs, kısa kenarın $\sqrt{5}$ katıdır.



Örnek:

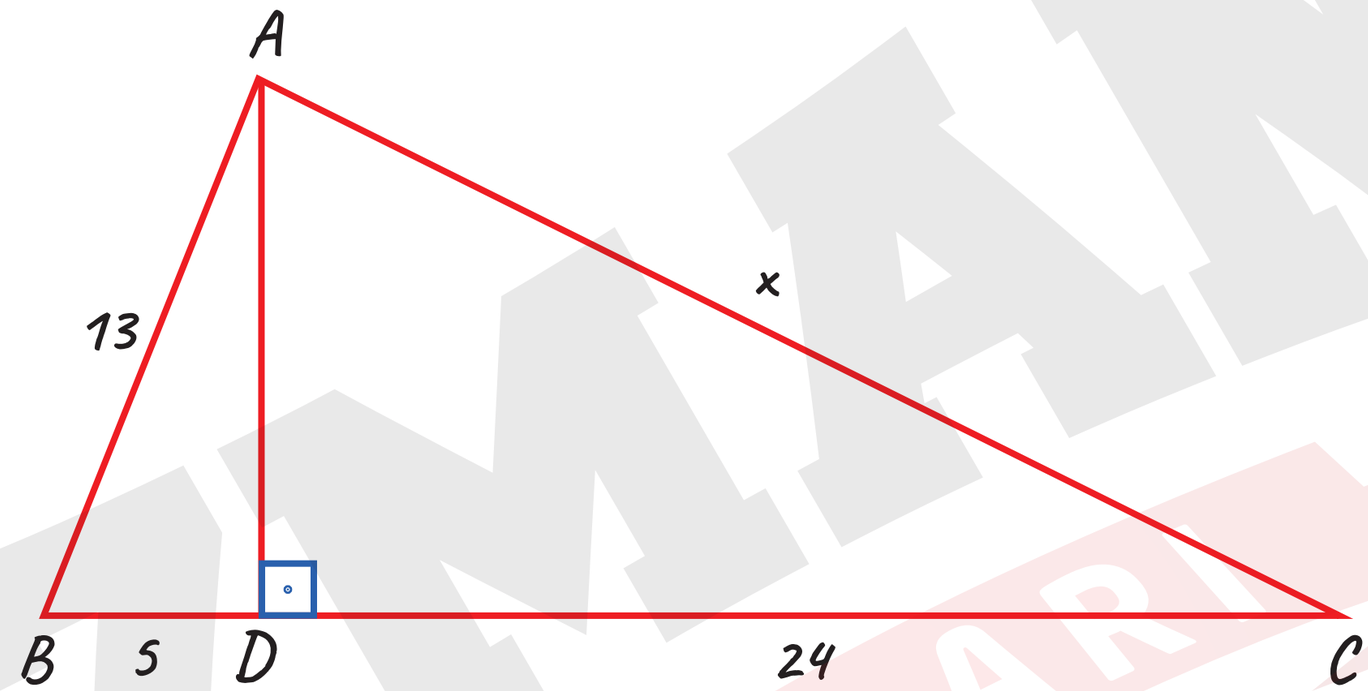
ABC bir üçgen

[DB] ⊥ [BC]

|AB| = 13 cm

|BD| = 5 cm

|DC| = 24 cm ise



|AC| = x kaç cm dir?

Örnek:

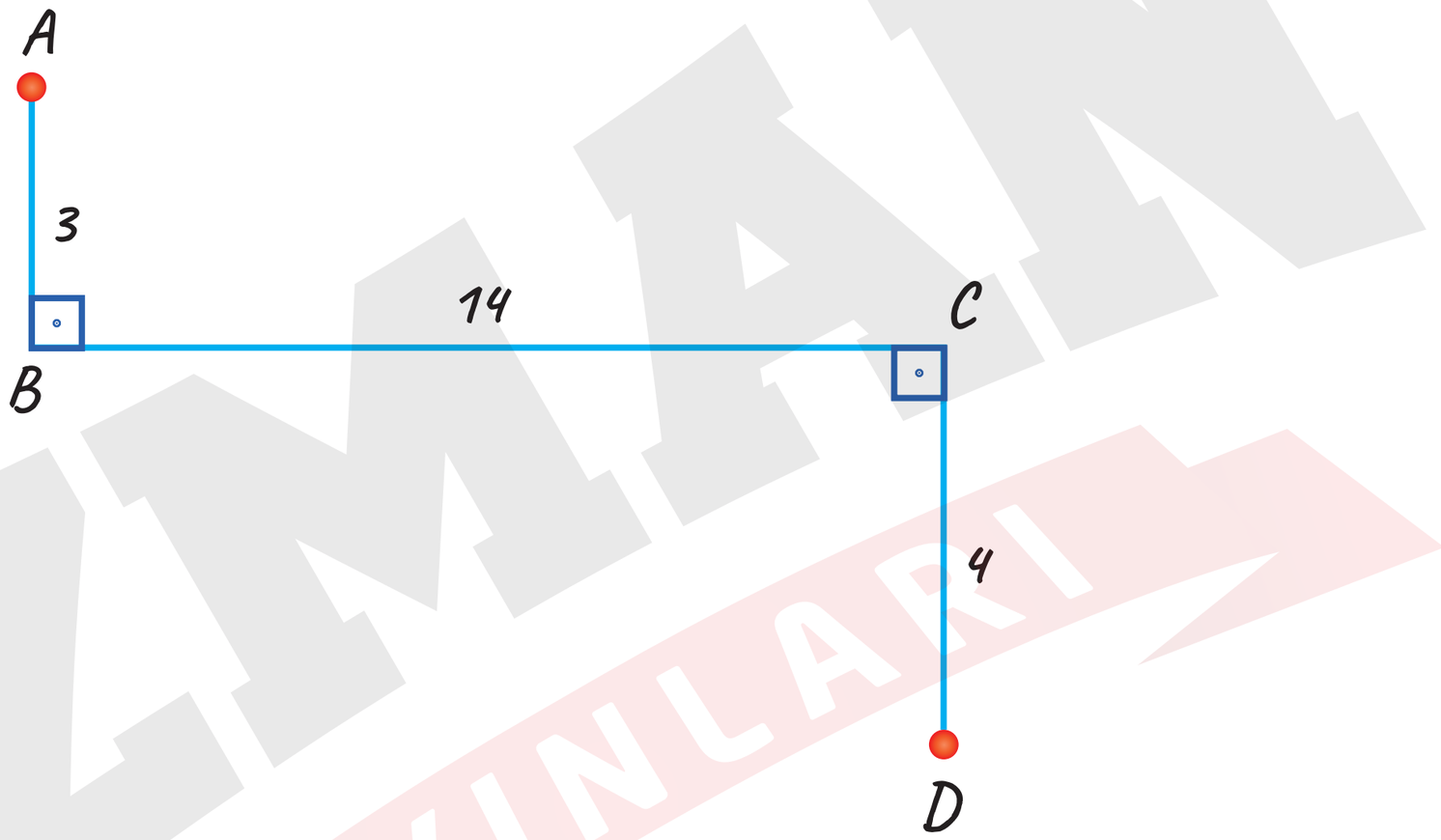
[AB] ⊥ [BC]

[BC] ⊥ [CD]

|AB| = 3 cm

|CD| = 4 cm

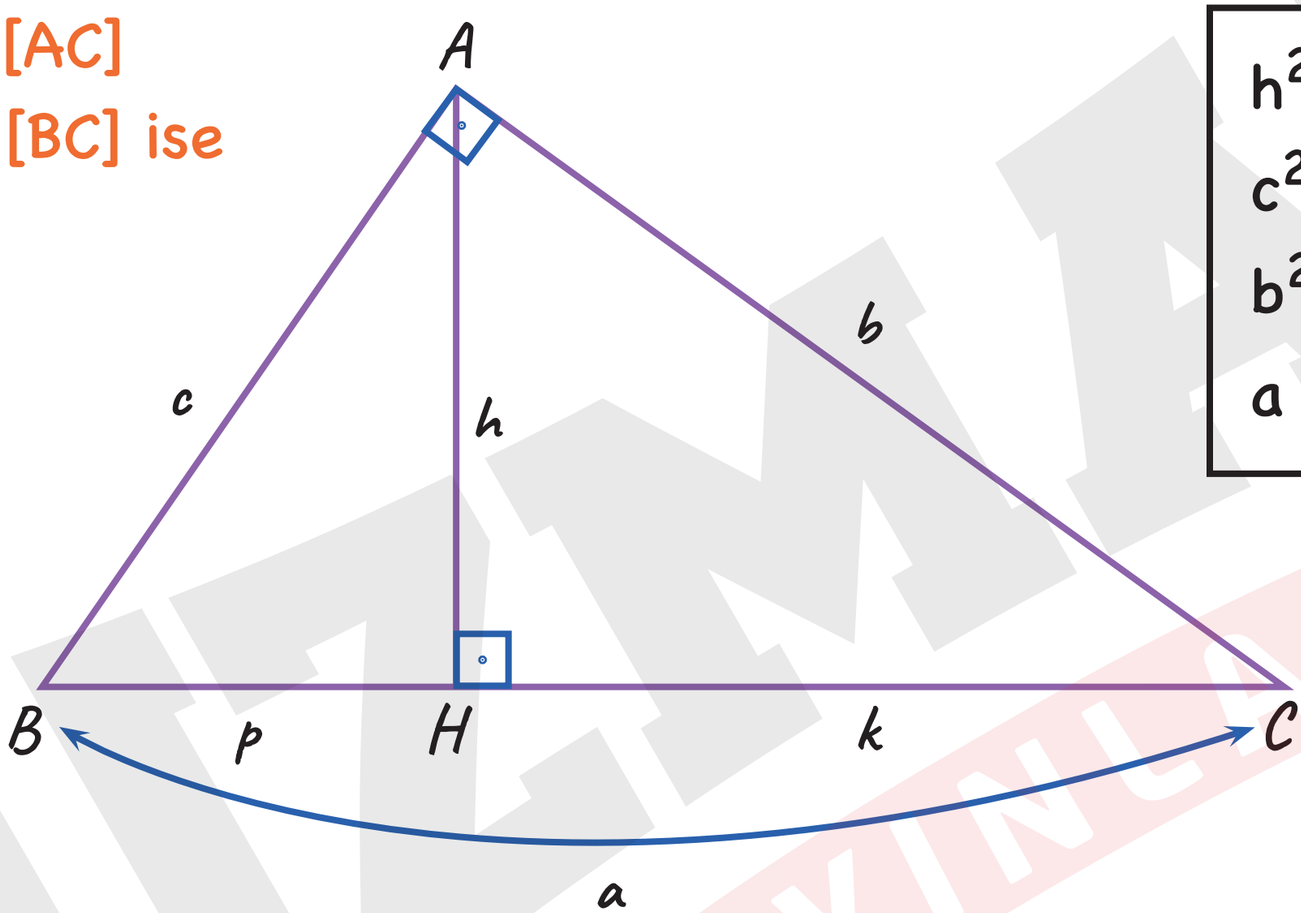
|BC| = 14 cm ise



A ve D noktaları arasındaki uzaklık kaç cm dir?

Öklid Bağıntıları:

➜ [AB] ⊥ [AC]
[AH] ⊥ [BC] ise



$h^2 = p \cdot k$

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

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

$a \cdot h = b \cdot c$

dir.

Örnek:

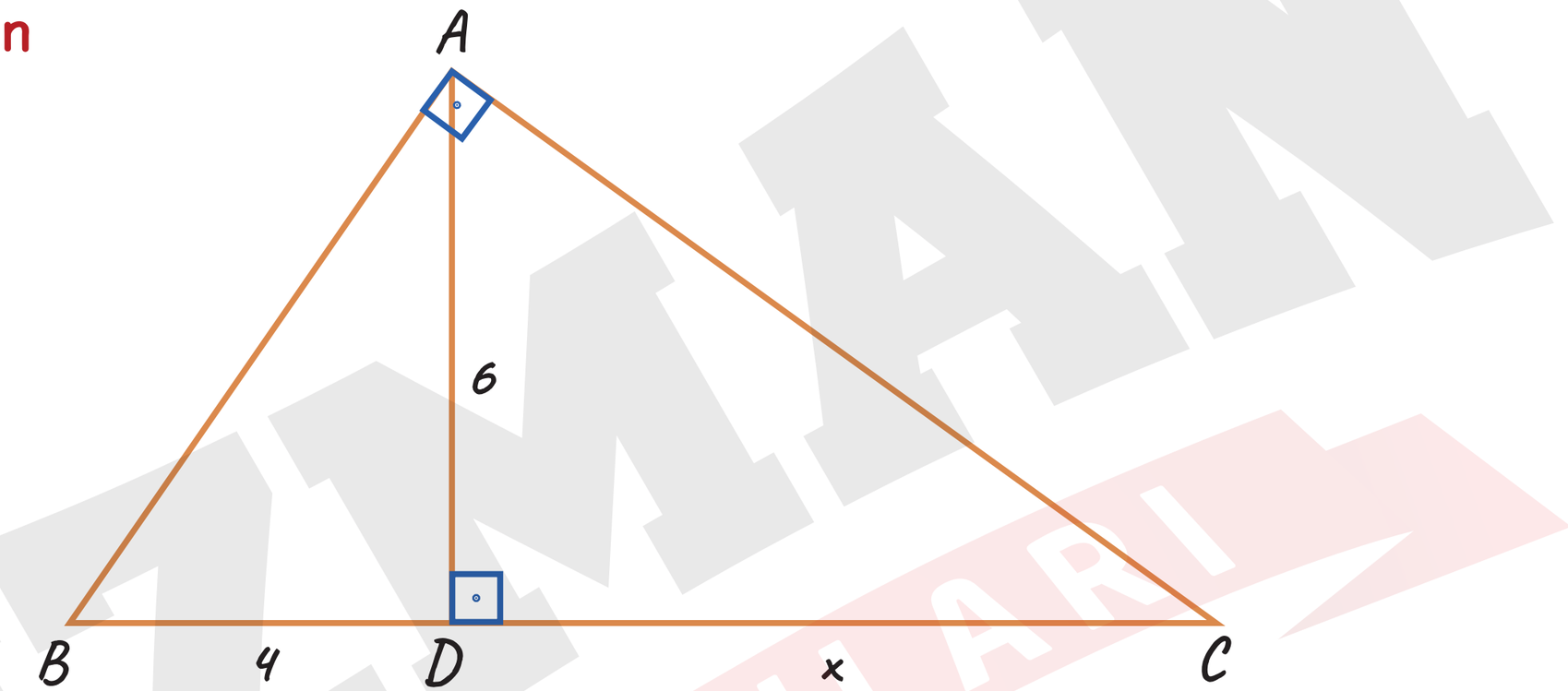
ABC bir dik üçgen

[AB] ⊥ [AC]

[AD] ⊥ [BC]

|BD| = 4 cm

|AD| = 6 cm ise



|DC| = x kaç cm dir?

Örnek:

ABC bir dik üçgen

[AC] ⊥ [BC]

[CD] ⊥ [AB]

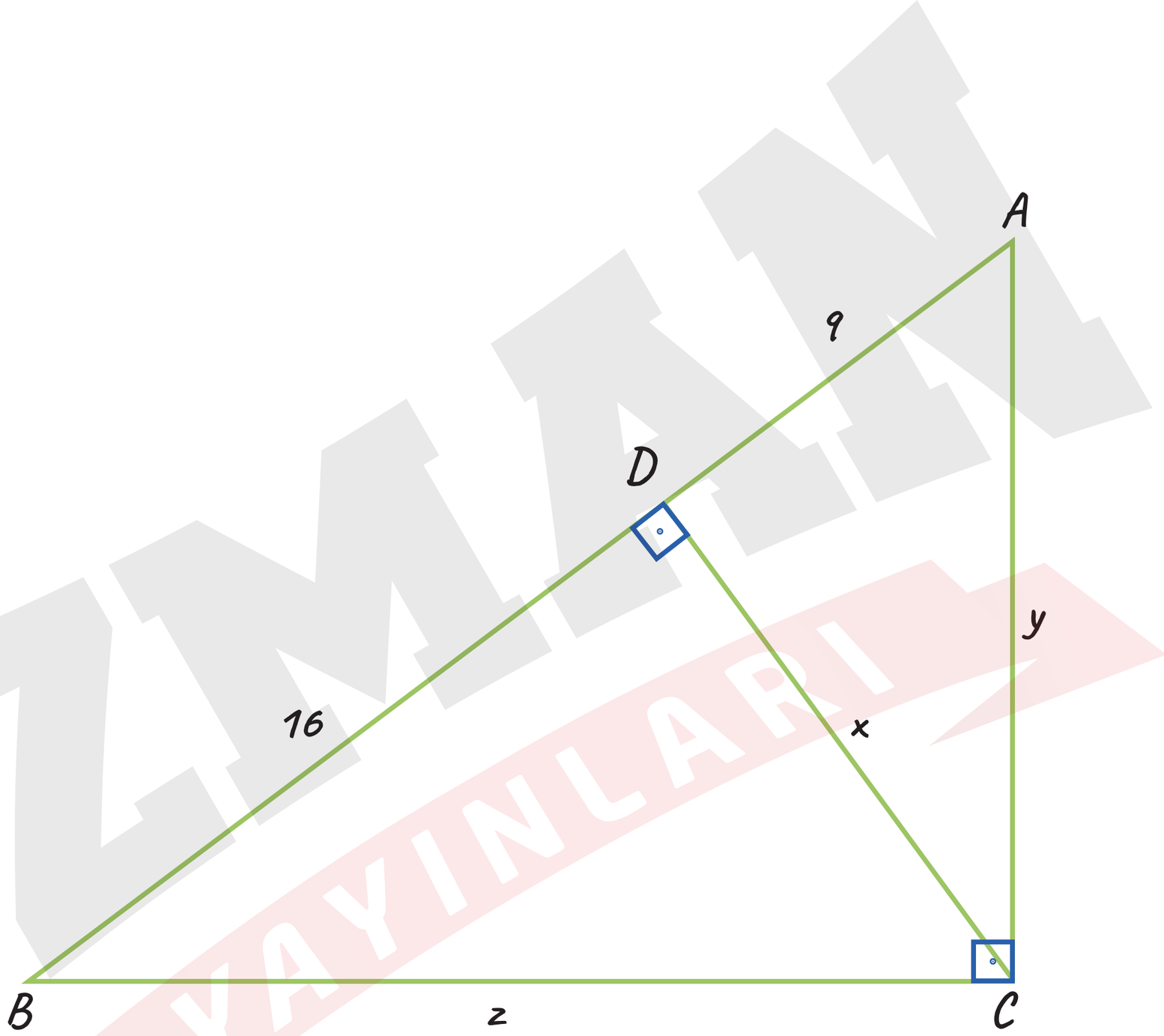
|AD| = 9 cm

|BD| = 16 cm

|AC| = y

|DC| = x

|BC| = z ise



x + y + z toplamı kaç cm dir?

Örnek:

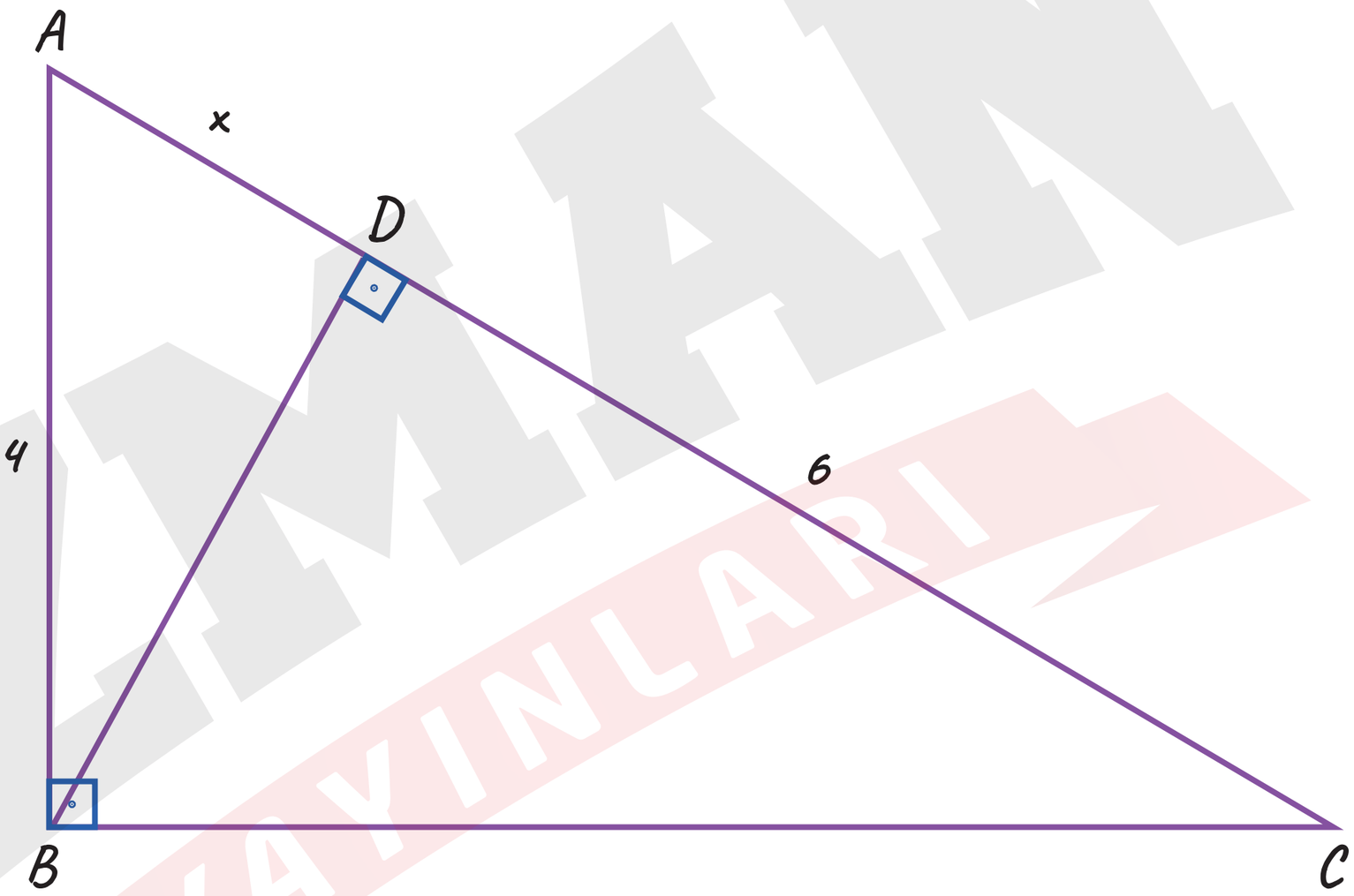
ABC bir dik üçgen

[AB] ⊥ [BC]

[BD] ⊥ [AC]

|AB| = 4 cm

|DC| = 6 cm ise



|AD| = x kaç cm dir?

Örnek:

ABC bir dik üçgen

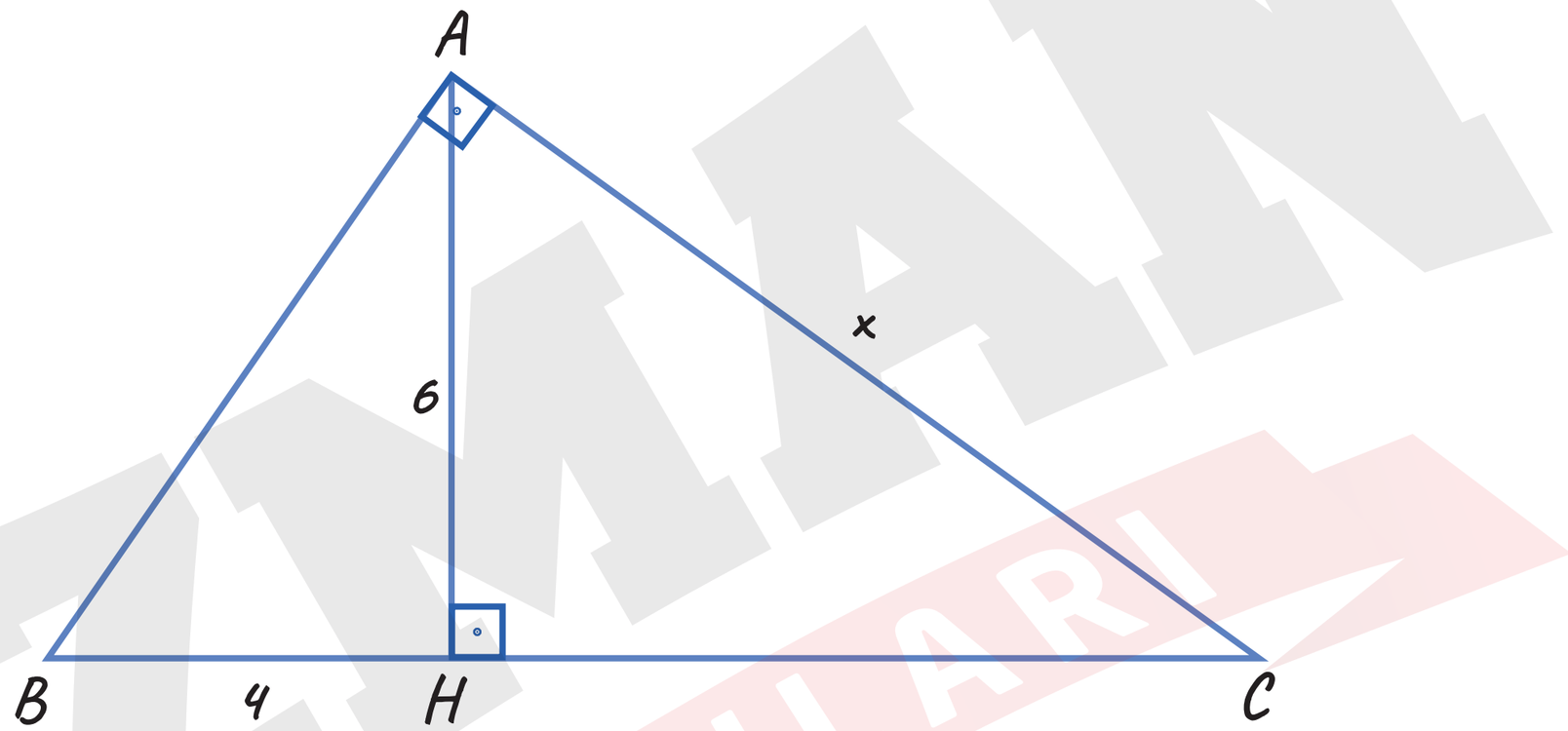
[AB] ⊥ [AC]

[AH] ⊥ [BC]

|AH| = 6 cm

|BH| = 4 cm

|AC| = x



Yukarıdaki verilere göre, |AC| = x kaç cm dir?

Örnek:

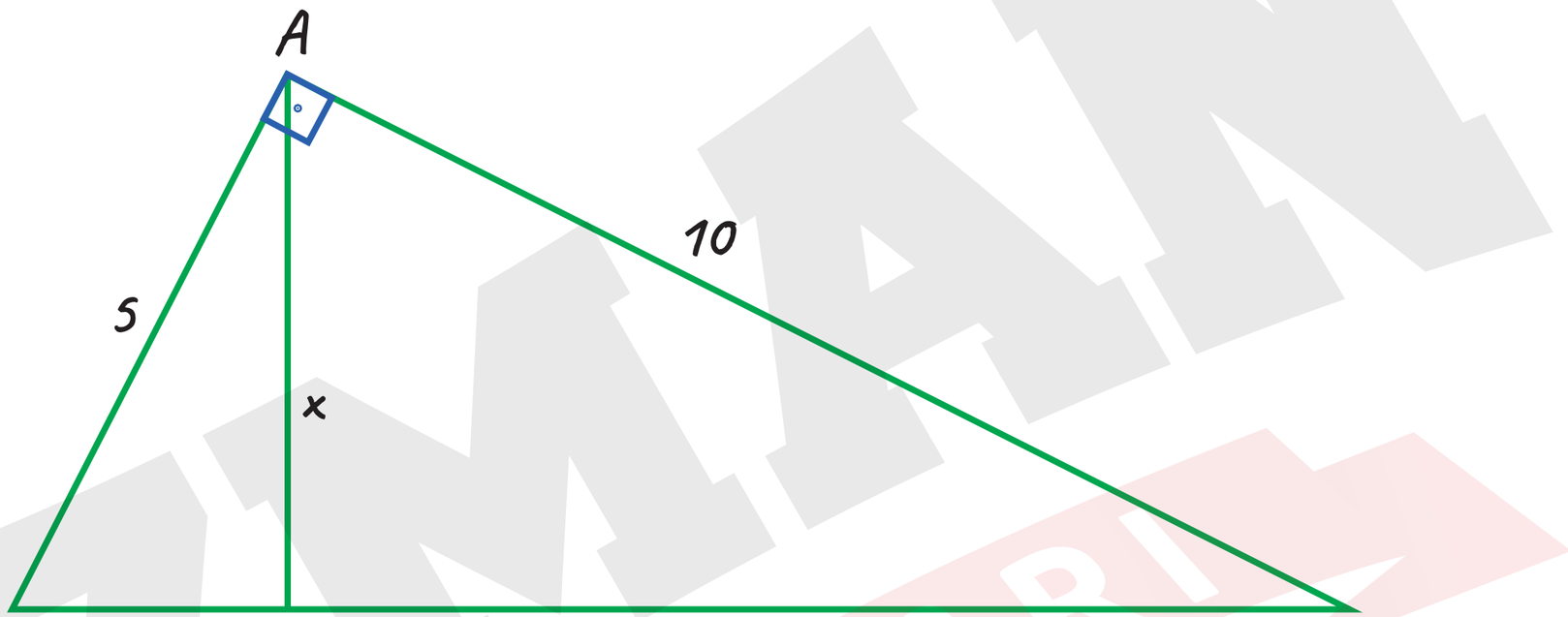
ABC bir dik üçgen

[AB] ⊥ [AC]

[AD] ⊥ [BC]

|AB| = 5 cm

|AC| = 10 cm ise



|AD| = x kaç cm dir?

Örnek:

ABC bir dik üçgen

[AB] ⊥ [AC]

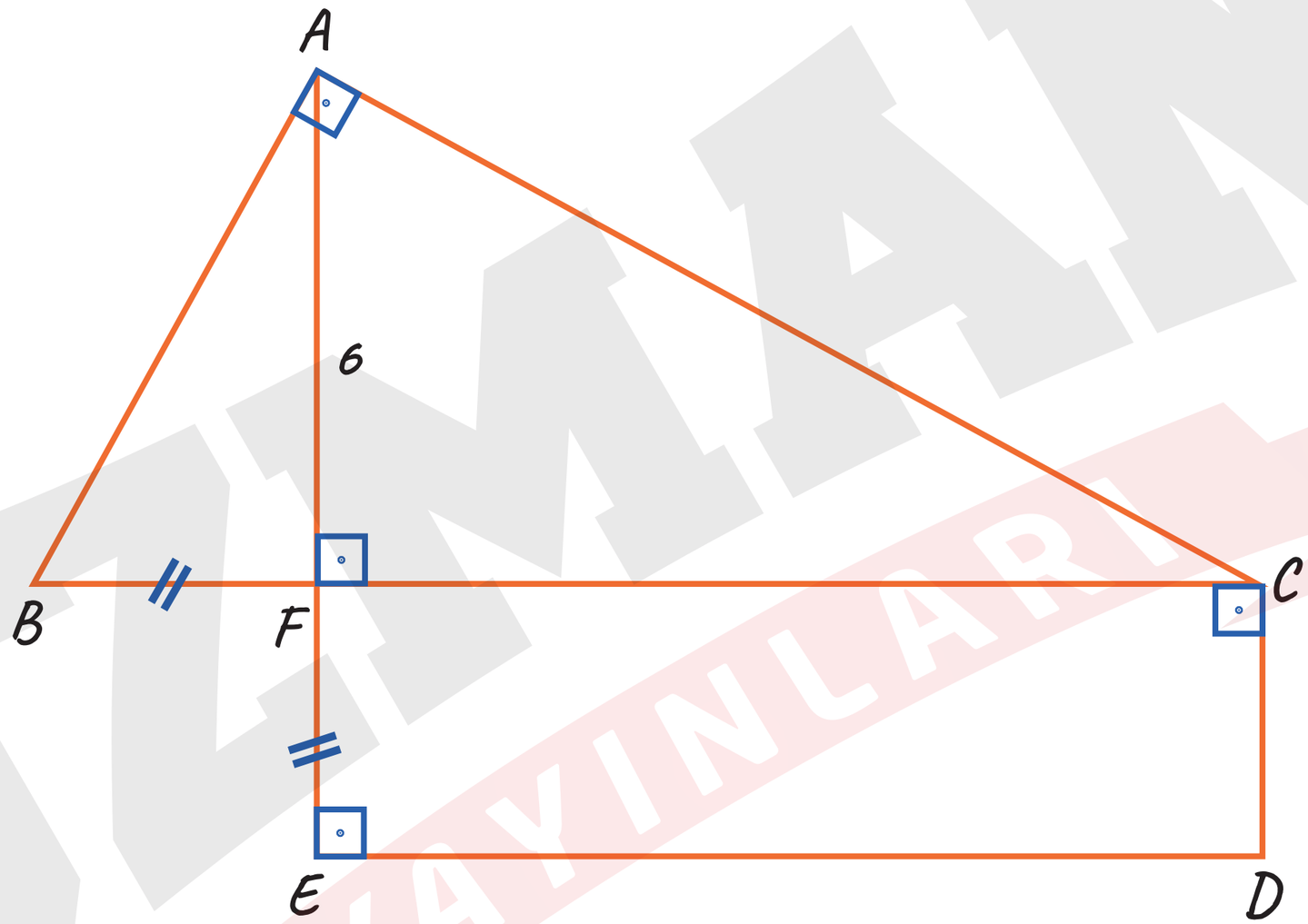
[AE] ⊥ [BC]

[AE] ⊥ [ED]

[BC] ⊥ [CD]

|BF| = |FE|

|AF| = 6 cm ise



Alan(FEDC) kaç cm^2 dir?

Örnek:

ABC ve FDC birer dik üçgen

[AB] ⊥ [AC]

[AD] ⊥ [BC]

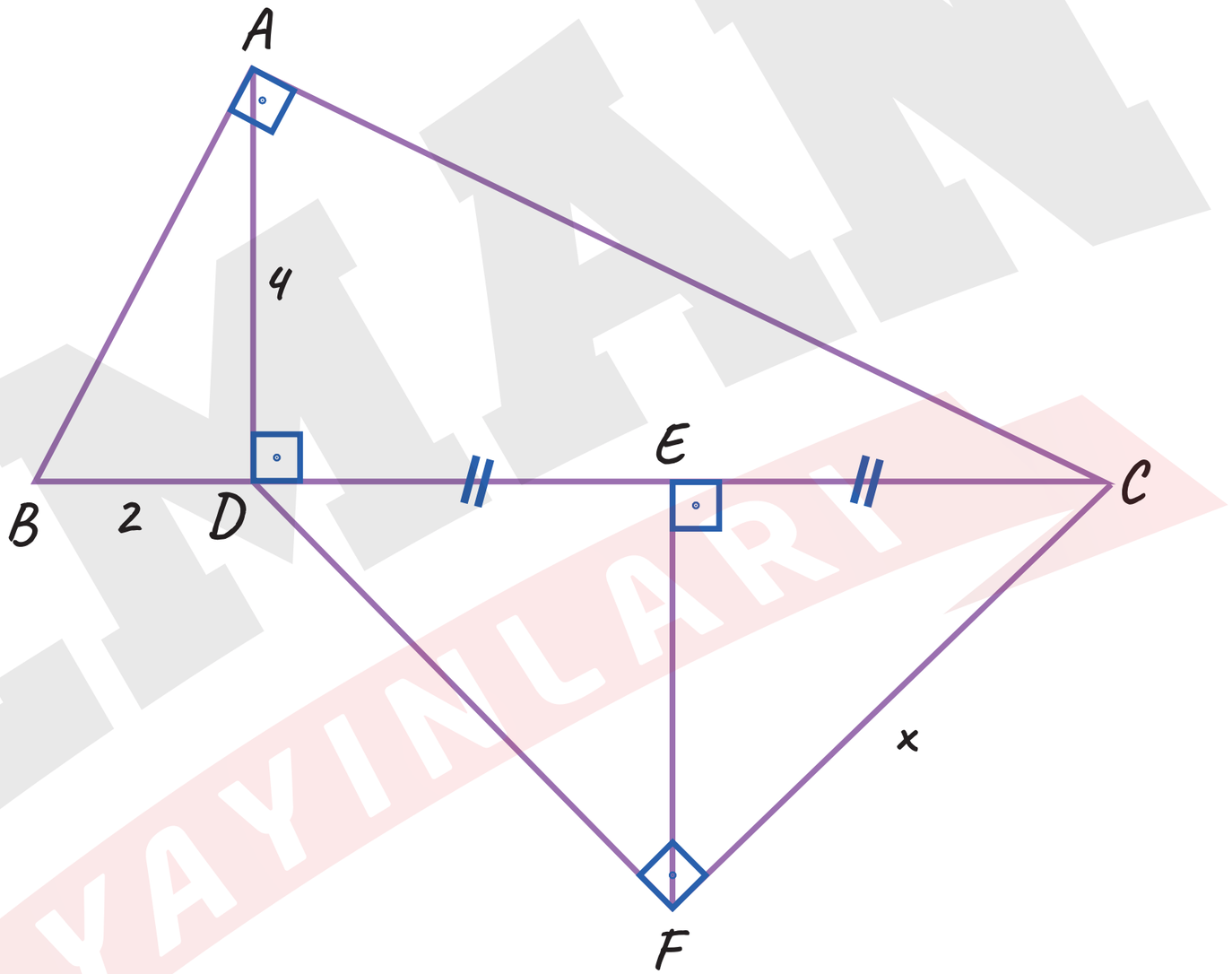
[DF] ⊥ [FC]

[FE] ⊥ [BC]

|DE| = |EC|

|AD| = 4 cm

|BD| = 2 cm



Yukarıdaki verilere göre, |FC| = x kaç cm dir?

Örnek:

ABC ve BED birer dik üçgen

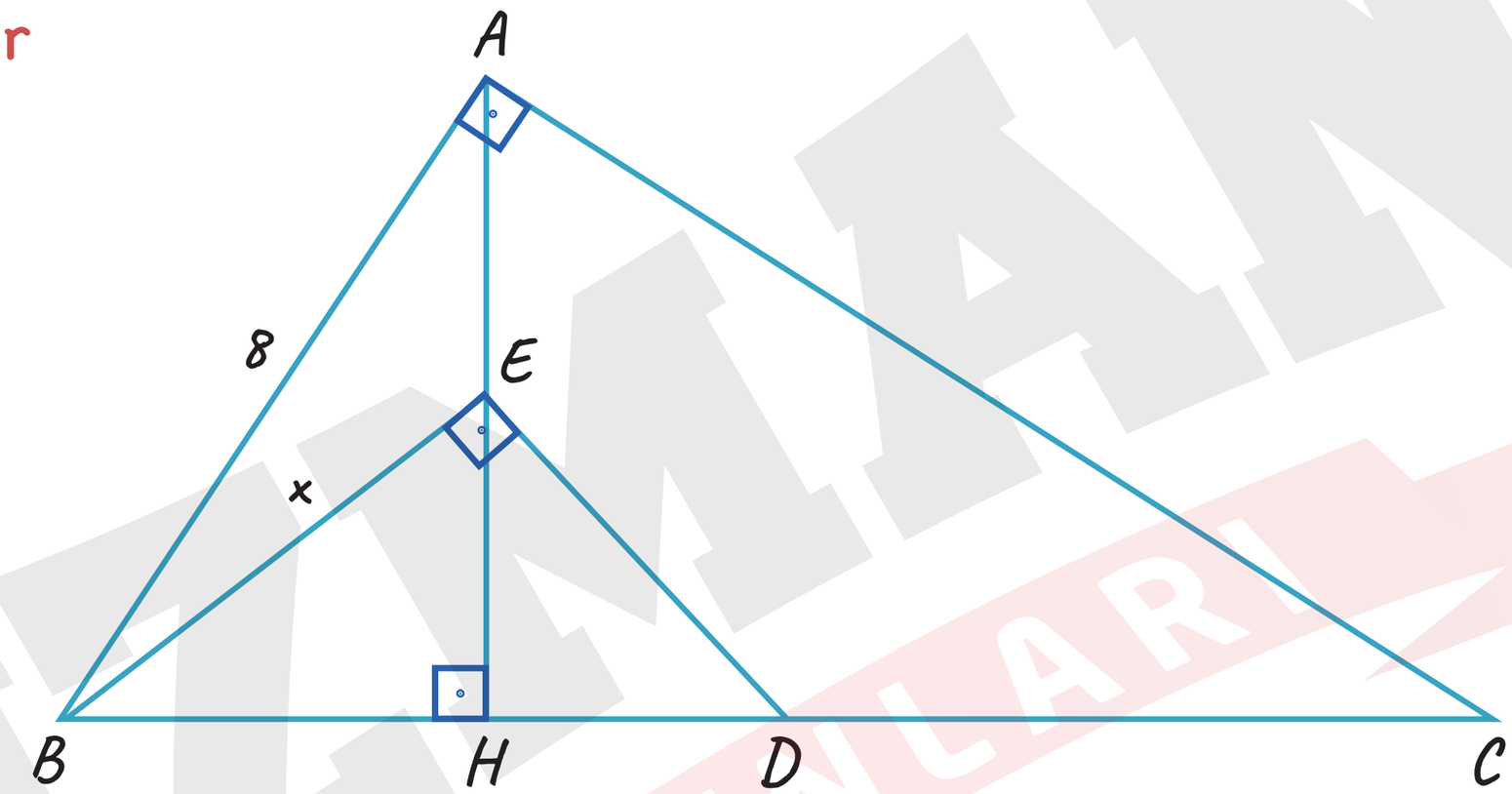
[AB] ⊥ [AC]

[BE] ⊥ [ED]

[AH] ⊥ [BC]

|BD| = |DC|

|AB| = 8 cm



Yukarıdaki verilere göre, |BE| = x kaç cm dir?