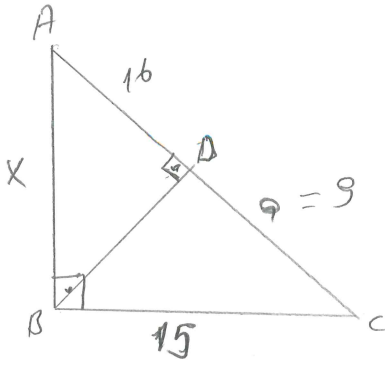


DİK ÜÇGEN

TEST 2

①



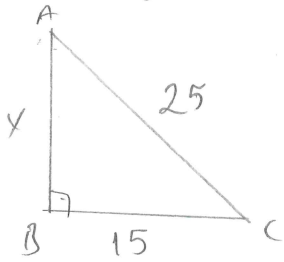
Öklid bağıntısından yararlanılarak
 $|BD| = a$ olsun

$$15^2 = a(a+16)$$

$$225 = a(a+16) \quad a = 9$$

$$9 \cdot 25$$

ABC üçgeni (3-4-5) üçgeni katları görünürse



$$3 \cdot 5 = 15$$

$$4 \cdot 5 = 20$$

$$5 \cdot 5 = 25$$

$$x = 20$$

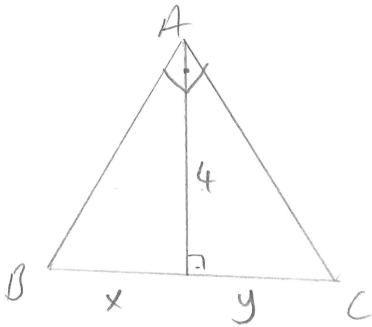
veya Pisagor

$$x^2 + (15)^2 = (25)^2$$

$$x = 20$$

$$\text{Çevre} = 15 + 20 + 25 = 60 //$$

②

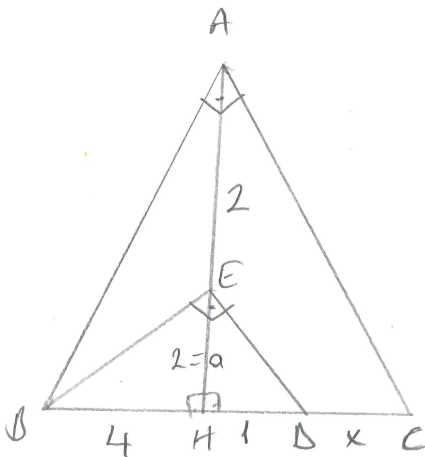


Öklid

$$4^2 = x \cdot y$$

$$16 = x \cdot y$$

③



$\triangle BED$ Öklid, $|EH| = a$ olsun

$$a^2 = 4 \cdot 1$$

$$a^2 = 4$$

$$a = 2$$

$\triangle ABC$ Öklid

$$|AH|^2 = |BH| \cdot |HC|$$

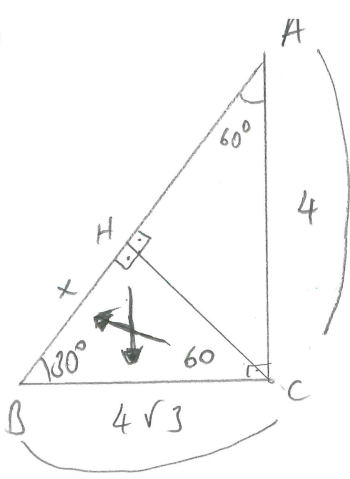
$$4^2 = 4 \cdot (1+x)$$

$$16 = 4(1+x)$$

$$4 = 1+x$$

$$x = 3 //$$

(4)


 $\triangle ABC (30-60-90)$
 30° - karşısı 4

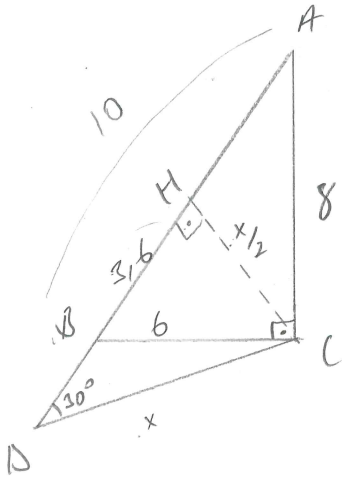
 60° 4√3

 90° 8

 $\triangle AHC (30-60-90)$
 90° karşısı 4√3

 $30^\circ = \dots 2\sqrt{3}$
 60° $6 = x$

(5)


 $\triangle ABC$
 $(6-8-10)$
 $|AB| = 10$

C nokt. AB uzunluğuna dik çizilirse;

 $\triangle H C$ üçgeni $(30-60-90)$
 $|HC| = \text{uzunluğ} = \frac{x}{2}$, $|DC| = x$ uzunluğunun yarısıdır.

 $\triangle ABC$ öklid uygulanırsa

$$|BC|^2 = |BH| \cdot |BA|$$

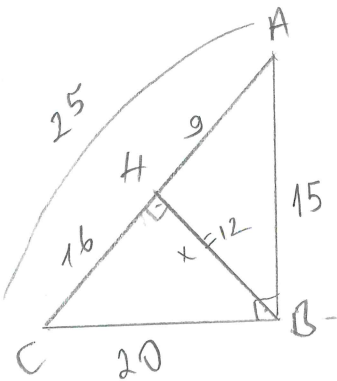
$$6^2 = |BH| \cdot 10 \Rightarrow |BH| = 3,6$$

 $\triangle BHC$ Pisagor

$$6^2 = (3,6)^2 + \left(\frac{x}{2}\right)^2 \Rightarrow 36 = 12,96 + \frac{x^2}{4} \quad \frac{x^2}{4} = 23,04$$

$$x = 9,6 //$$

(6)


 $\triangle ABC$ $(3-4-5)$ katları düşünülürse

$$3 \cdot 5 = 15$$

$$4 \cdot 5 = 20$$

$$|AC| = 5 \cdot 5 = 25$$

 $\triangle ABC$ öklid

$$|AB|^2 = |AH| \cdot |AC|$$

$$15^2 = |AH| \cdot 25$$

$$9 = |AH|$$

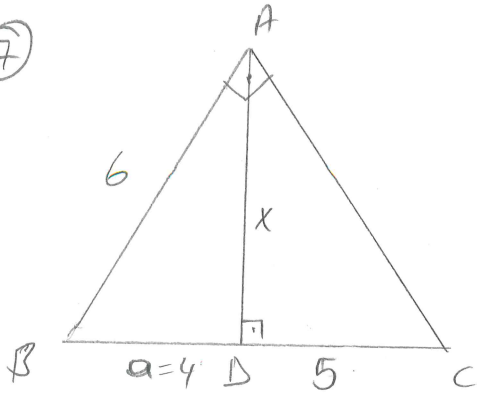
$$25 - 9 = |CH| = 16$$

 $\triangle CHB$ üçgeni

 $3-4-5$ katları

$$\left. \begin{array}{l} 3 \cdot 4 = 12 \\ 4 \cdot 4 = 16 \\ 5 \cdot 4 = 20 \end{array} \right\} \Rightarrow x = 12 //$$

7



Öklid

$$|AD|^2 = |BD| \cdot |DC|$$

$$6^2 = a \cdot (a+5)$$

$$36 = a(a+5) \Rightarrow a = 4$$

$$4 \cdot 9$$

$$|AD|^2 = |BD| \cdot |DC|$$

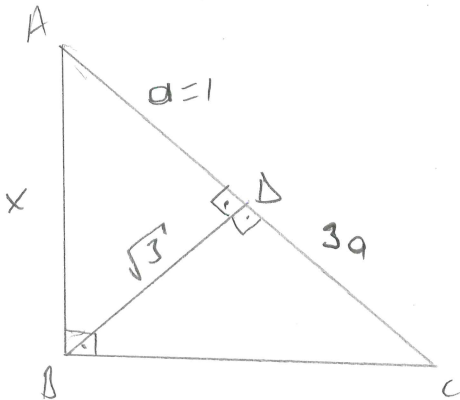
$$x^2 = 4 \cdot 5$$

$$x^2 = 20$$

$$x = 2\sqrt{5}$$

$$\frac{|BD|}{|AD|} = \frac{4}{2\sqrt{5}} = \frac{2}{\sqrt{5}} = \frac{2\sqrt{5}}{5} //$$

8



Öklid

$$|BD|^2 = |AD| \cdot |DC|$$

$$(\sqrt{3})^2 = a \cdot 3a$$

$$3 = 3a^2$$

$$1 = a^2$$

$$1 = a$$

$\triangle ABC$ Pisagor

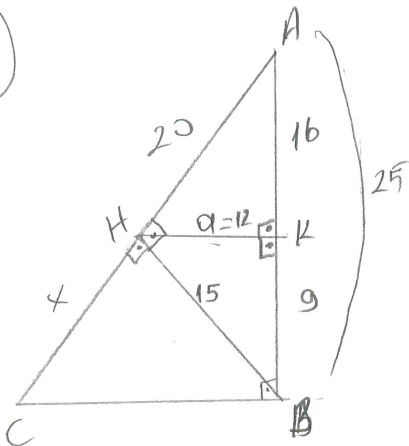
$$x^2 = (\sqrt{3})^2 + 1^2$$

$$x^2 = 3 + 1$$

$$x^2 = 4$$

$$x = 2 //$$

9



$[HK] \perp [AB]$

$\triangle AHB$ Öklid

$$|HK|^2 = |AK| \cdot |KB|$$

$$a^2 = 16 \cdot 9$$

$$a^2 = 144$$

$$a = 12$$

$\triangle HKB$ (3-4-5) katları

$$3 \cdot 3 = 9$$

$$4 \cdot 3 = 12$$

$$5 \cdot 3 = 15$$

$$|HB| = 15$$

$\triangle AHB$ (3-4-5) katları

$$3 \cdot 5 = 15$$

$$|AH| = 20$$

$$|AH| = 4 \cdot 5 = 20$$

$$5 \cdot 5 = 25$$

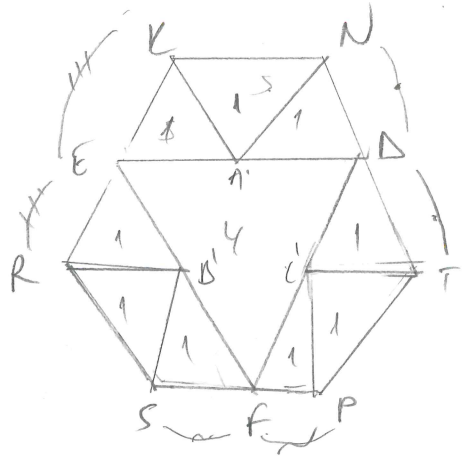
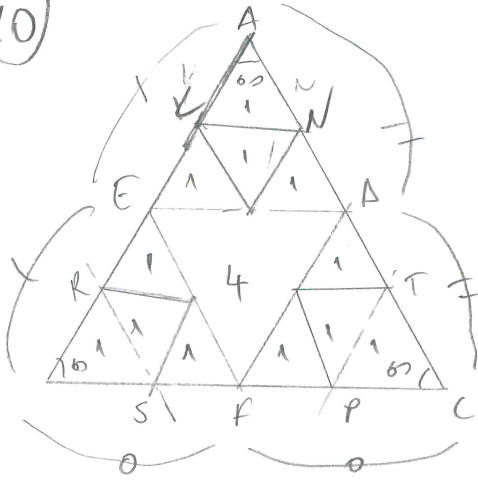
$\triangle ABC$ Öklid

$$|AB|^2 = |AH| \cdot |AC|$$

$$(25)^2 = 20 \cdot (20+x) \Rightarrow 625 = 400 + 20x \Rightarrow 225 = 20x$$

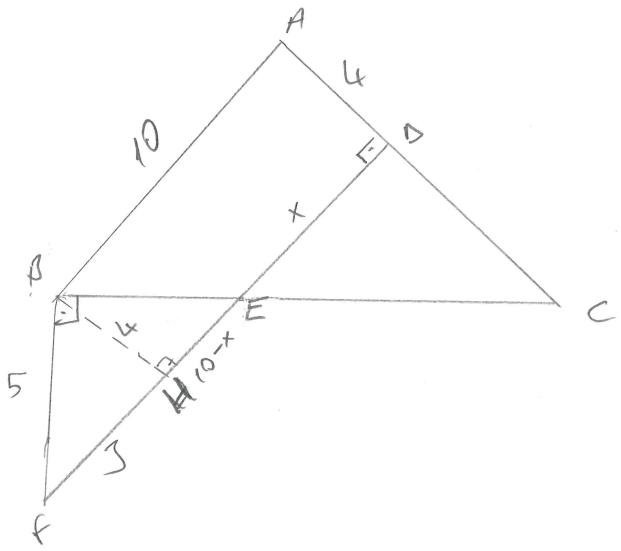
$$x = \frac{225}{20} = \frac{45}{4} //$$

10)



$$A(ABC) = 16$$

11)



$\triangle BHA$ dikdörtgeninde

$$\begin{aligned} |BH| &= 4 \\ |HD| &= 10 \\ |HE| &= 10-x \end{aligned}$$

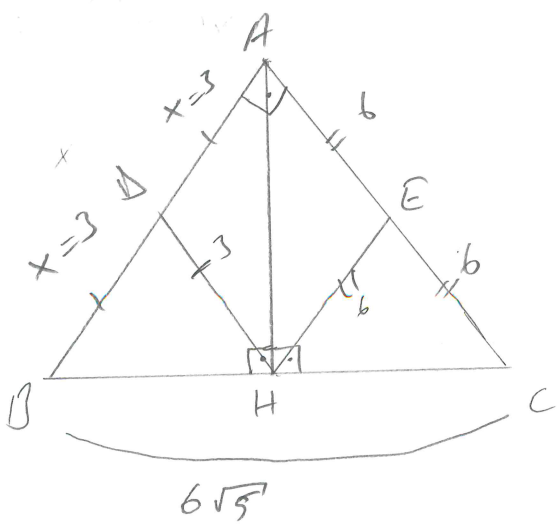
$$\begin{aligned} \triangle BHF & \text{ (3-4-5)} \\ |FH| &= 3 \end{aligned}$$

$\triangle EBF$ benzer

$$|BH|^2 = |FH| \cdot |HE|$$

$$4^2 = 3 \cdot (10-x) \Rightarrow 16 = 30 - 3x \Rightarrow x = \frac{14}{3} //$$

12)



$\triangle ABC$ pisagor

$$\begin{aligned} (6\sqrt{5})^2 &= 12^2 + (2x)^2 \\ 180 &= 144 + 4x^2 \\ 36 &= 4x^2 \\ 9 &= x^2 \\ 3 &= x \end{aligned}$$

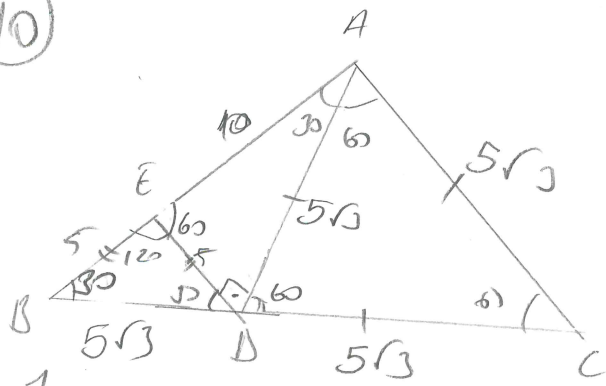
$\triangle AHA$ ve $\triangle AHC$

muhtesem
çözü var.

$$\begin{aligned} |BH| &= 3 \\ |HE| &= 6 \end{aligned}$$

$$\begin{aligned} \text{Gençre} &= 6+6+3+3 \\ &= 18 // \end{aligned}$$

(10)



$\angle E$ bütünleşir $= 180 - 60 = 120$

$\triangle ABC \rightarrow (30 - 60 - 90)$

$\angle B \rightarrow 30^\circ$

$\triangle AED (30 - 60 - 90)$

$\triangle AC$ eşkenar
ise bir açıları

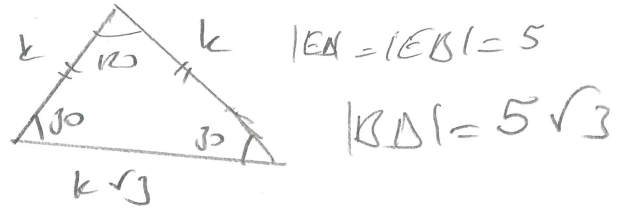
60° , tüm kenarlar
eşit ve uzunluktadır.

$90^\circ \rightarrow 10$ ise

$30^\circ \rightarrow \frac{10}{2} = 5 = |EA|$

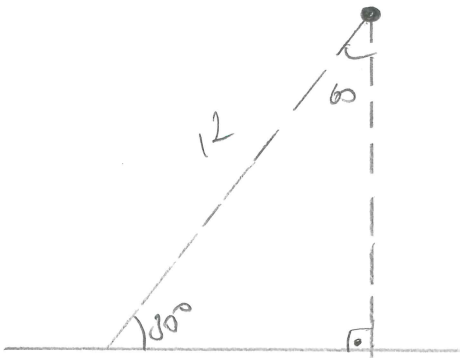
$60^\circ \Rightarrow 5\sqrt{3} = |AD|$

$\triangle EBD \rightarrow (120 - 30 - 30)$



$|BC| = 5\sqrt{3} + 5\sqrt{3} = 10\sqrt{3}$

(11)



$90^\circ \rightarrow 12$

$30^\circ \rightarrow \frac{12}{2} = 6 //$