

ADINIZ :
SOYADINIZ:
SINIFINIZ:
NUMARANIZ:

2014 - 2015 YILI
MATBAZ LİSESİ

10. sınıf

MATEMATİK
2. dnm 1.sınav b

NOT: HER SORUNUN TAM VE DOĞRU ÇÖZÜMÜ 10 PUANDIR.
ÇÖZÜM ADIMLARINIZ TAM OLMALIDIR. SADECE CEVABA PUAN VERİLMEZ.

ALDIĞI PUAN:

BAŞARI DİLEKLERİMİZLE...

- 1) ABCD paralelkenar,
[AC] ∩ [BG] = E
|EB| = 6 br,
|EG| = 9 br ise
|TG| kaç birimdir?

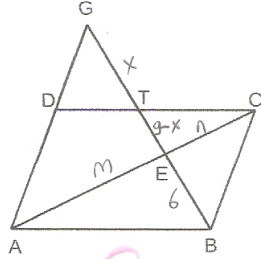
$$\triangle AGE \sim \triangle CBE$$

$$\frac{m}{n} = \frac{9}{6}$$

$$\triangle TEC \sim \triangle BEA$$

$$\frac{m}{n} = \frac{6}{9-x}$$

Bu soru formülle de yapılabilir
 $6^2 = (9-x) \cdot 9 \rightarrow x = 5$



$$\frac{9}{6} = \frac{6}{9-x} \quad 36 = 81 - 9x$$

$$9x = 45 \quad x = 5$$

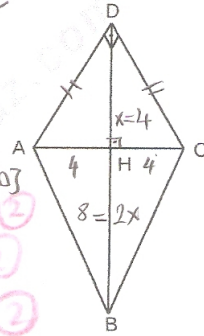
- 2) ABCD deltoid,
 $m(\widehat{ADC}) = 90^\circ$
|AD| = |DC| cm ve
|AH| = 4, |BH| = 2, |DH|
A(ABCD) kaç cm² dir?
|AH| = |HC| |AC| ⊥ |BD|

$$|AH| = |HC| = |DH|$$

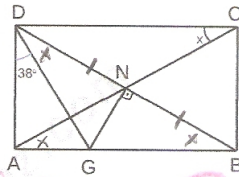
(muhtesem üçlü)

$$|DH| = 4 \Rightarrow |HC| = 8$$

$$A(ABCD) = \frac{|AC| \cdot |BD|}{2} = \frac{8 \cdot 12}{2} = 48 \text{ br}^2$$



- 3) ABCD bir dikdörtgen N
köşegenlerin kesim noktasıdır. NG ⊥ DB ve
 $m(\widehat{ADG}) = 38^\circ$ ise
 $m(\widehat{ACD})$ kaç derecedir?



Köşegenler birbirini ortlar $\Rightarrow |DN| = |NB| \Rightarrow \triangle DGB$ ikizkenlidir.

$$m(\widehat{DCA}) = m(\widehat{CAB}) = m(\widehat{ANB}) = m(\widehat{GDN})$$

$$\triangle DGB \text{ de } 90 + x + x + 38 = 180$$

$$2x + 38 = 90$$

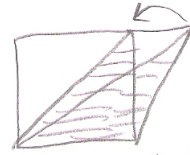
$$2x = 52$$

$$x = 26$$

- 4) MTBZ bir karedir.
Z, B ve R doğrusaldır.
[MR] ⊥ [ST], |ST| = 6br
ve |MR| = 12br ise
Çevre(MTBZ) kaçtır?

$$A(\triangle MTR) = \frac{6 \cdot 12}{2} = 36 \text{ br}^2$$

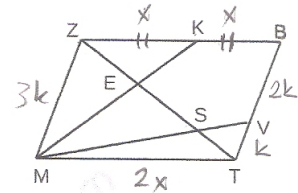
R noktasını B ye kaydırsak aynı değere geliriz



$$A(\triangle MBT) = A(\triangle MRT) = \frac{A(MTBZ)}{2} = 36$$

$$A(MTBZ) = 72 \text{ br}^2$$

- 5) MTBZ paralelkenar,
ZT köşegenidir.
[MV] ∩ [ZT] = |S|,
[MK] ∩ [ZT] = |E|
2. |VT| = |VB|
|KZ| = |KB|
olduğuna göre, $\frac{|ES|}{|ZT|}$
oranı kaçta eşittir?



$$\triangle ZEK \sim \triangle TEM$$

$$\frac{|ZE|}{|ET|} = \frac{1}{2}$$

$$\triangle ZSM \sim \triangle TSV$$

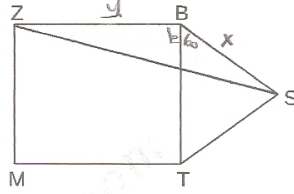
$$\frac{|ST|}{|SZ|} = \frac{1}{3}$$

$$|ZT| = 12c \Rightarrow |ZS| = 9c \quad |ST| = 3c$$

$$|ZE| = 4c \quad |ET| = 8c \quad |ES| = 5c$$

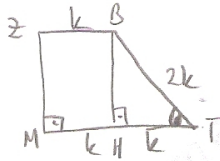
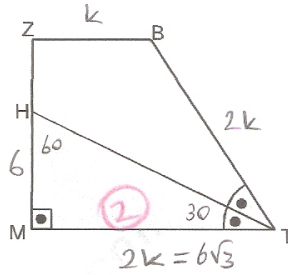
$$\frac{|ES|}{|ZT|} = \frac{5c}{12c} = \frac{5}{12} \quad \frac{1}{1/3} = 3$$

- 6) MTBZ bir dikdörtgen, BTS eşkenar üçgendir. Alan(ZBS)=18 br² ise Alan(MTBZ) kaçtır?



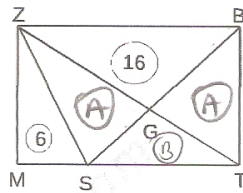
$m(\angle ZBS) = 60^\circ$ $|BS| = x$ $|BZ| = y$
 $\Rightarrow A(ZBS) = \frac{1}{2} \cdot x \cdot y \cdot \sin 60^\circ$
 $\Rightarrow 18 = \frac{xy}{4} \Rightarrow xy = 72$
 $A(MTBZ) = x \cdot y = 72 \text{ br}^2$

- 7) MTBZ bir yamuk
 $[ZB] \parallel [MT]$
 $|HM| = 6 \text{ br}$
 $\frac{|ZB|}{|BT|} = \frac{1}{2}$
 $|TB| = |MT|$
 Alan(MTH) kaçtır?



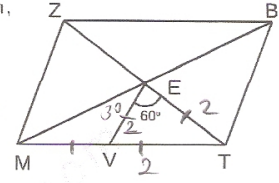
$BH \perp MT$
 ΔBHT 30 60 90
 Uçer
 $m(\angle T) = 60^\circ$
 $m(\angle MTH) = 30^\circ$
 $A(MTH) = \frac{6\sqrt{3} \cdot 6}{2} = 18\sqrt{3} \text{ br}^2$

- 8) MTBZ bir dikdörtgendir. $[ZT] \cap [SB] = \{G\}$. Alan(MSZ)=6 br², Alan(BGZ)=16 br², ise Alan(BGT) kaç birim karedir?



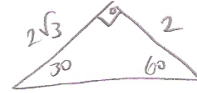
STBZ yamuktur. $A(SGZ) = A(TGB)$
 $A(ZSB) = \frac{A(MTBZ)}{2}$
 $A+16 = A+B+6 \Rightarrow B = 10 \text{ br}^2$
 $\frac{A}{B} = \frac{16}{A} \Rightarrow A^2 = 16 \cdot 10 \Rightarrow A = 4\sqrt{10}$

- 9) MTBZ eşkenar dörtgen, $|MV| = |VT|$, $m(\angle VET) = 60^\circ$, $|EV| = 2 \text{ cm}$ olduğuna göre, A(ABCD) kaç cm² dir?



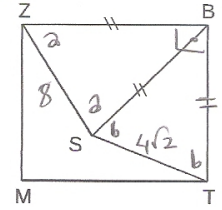
$m(\angle MET) = 90^\circ$ köşegenler dik kesilir.
 $|EV| = |MV| = |VT|$ (mutlak eşitlik)

ΔVET eşkenar üçgen

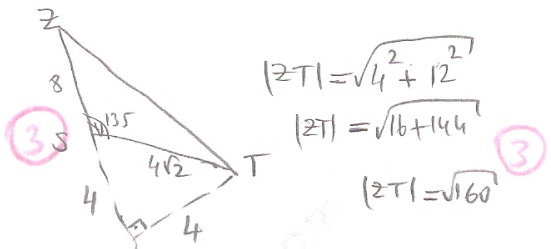


$|MB| = 4\sqrt{3}$ $|ZT| = 4$
 $A(MTBZ) = \frac{4 \cdot 4\sqrt{3}}{2} = 8\sqrt{3} \text{ br}^2$

- 10) MTBZ karedir, $|IZBI| = |ISBI|$, $|ISZI| = 8 \text{ cm}$, $|ISTI| = 4\sqrt{2} \text{ cm}$ olduğuna göre, Alan(MTBZ) kaç cm² dir?



$90 + 2a + 2b = 360$
 $a + b = 135^\circ$



$|ZT| = \sqrt{4^2 + 12^2}$
 $|ZT| = \sqrt{16 + 144}$
 $|ZT| = \sqrt{160}$
 $|ZT| = 2\sqrt{2} = \sqrt{160}$
 $a = \sqrt{80} =$
 $A(MTBZ) = (\sqrt{80})^2 = 80 \text{ br}^2$