



HARRAN  
UNİVERSİTESİ

# HARRAN ÜNİVERSİTESİ

ULUSLARARSI ÖĞRENCİ SEÇME SINAVI

THE ENTRANCE EXAMINATION FOR FOREIGN STUDENTS

HRÜ YÖS 2018-1



## MATEMATİK VE TEMEL ÖĞRENME BECERİLERİ TESTİ THE MATHEMATICS & BASIC LEARNING SKILLS TEST

اختبار الرياضيات ومهارات التعليم الأساسية

17 Mart 2018

### A

#### ADAYIN / APPLICANT'S

ADI / NAME الاسم:	
SOYAD / SURNAME/اللقب	
ADAY NUMARASI / CANDIDATE NUMBER/رقم الطالب:	
SINAV SALON NO / EXAM ROOM NUMBER / رقم قاعة الاختبار:	

#### DİKKAT EDİLMESİ GEREKLİ HUSUSLAR

1. Bu soru kitapçığı 80 sorudan oluşmaktadır ve verilen cevaplama süresi 120 dakikadır.
2. İlk 60 dakika ve son 10 dakika sınavı bitirilmiş olsa bile sınav salonundan çıkmak yasaktır.
3. Soru kitapçık türünün cevap kağıdına kodlanması sınav değerlendirmesi için gereklidir.
4. Test kitapçığındaki her sorunun yalnızca bir doğru cevabı vardır.

#### IMPORTANT NOTES FOR THE EXAM TAKERS

1. This test has 80 questions and duration of the exam is 120 minutes.
2. It is not allowed to leave the exam room in the first 60 minutes and the last 10 minutes even if the exam has been completed
3. The coding of the booklet type is required for the examination marking.
4. Every question in the test book has only one correct answer.

#### ملاحظات يجب الانتباه لها

1. تحتوي ورقة الأسئلة على (80) سؤالاً، والزمن المخصص للإجابة عنها (120) دقيقة.
2. يمنع الخروج من قاعة الامتحان أول (60) دقيقة من مدة الامتحان، آخر (10) دقائق، حتى لو أتم الطالب الإجابة عن الأسئلة كلها.
3. تظليل رمز نموذج الأسئلة (A-B) ضروري من أجل عملية التصحيح.
4. كل سؤال يحتمل إجابة صحيحة واحدة فقط.

ملاحظة: جامعة حران لم تقم بنشر هذا الكتيب بل إنما قام بعض الطلاب بتسريبها ونشرها لكي يستفيد منها الطلاب من بعدهم

1. 5 saatte 504 km yol alan bir aracın bir dakikada ortalama hızı kaç metredir?

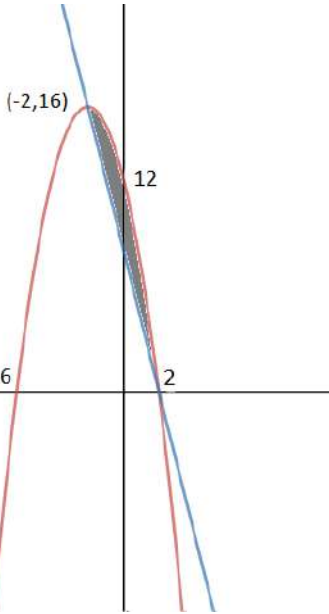
- A)2560 B)1008 C)1280 D)1680 E)840

2.  $f: [0,4]$   $f(x) = |x-1| + |x-2| + |x-3|$

Fonksiyonunun x eksenini ile sınırladığı bölgenin alanı kaç  $br^2$ ?

- A)14 B)10 C)8 D)12 E)6

3.



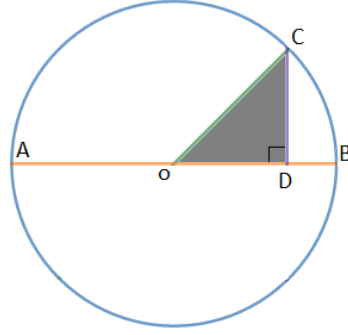
taralı alan kaç  $br^2$ ?

- A) $\frac{16}{3}$  B) $\frac{8}{3}$  C) $\frac{32}{3}$  D)16 E)32

4.  $\int_1^e \frac{\ln x}{x^2} dx = ?$

- A) $\frac{-2-e}{e}$  B) $\frac{-2}{e}$  C) $\frac{-2+e}{e}$  D) $\frac{-e}{2}$  E) $\frac{e+2}{e}$

5.



O merkezli çemberde AB çapın uzunluğu 20 br, Buna göre OCD dik üçgeninin alabileceği en büyük alan kaç birim karedir?

- A)30 B) $\frac{25\pi}{2}$  C)25π  
D) $\frac{25\pi}{4}$  E)25

6.

$$\int_{-2}^3 (f(x) - x^2) dx = \frac{10}{3}$$

buna göre:

$$\int_{-2}^3 (\pi f(x) + \pi^2 \sin(3\pi x)) dx = ?$$

- A)10π B)15π C)20π  
D)25π E) $\frac{47\pi}{3}$

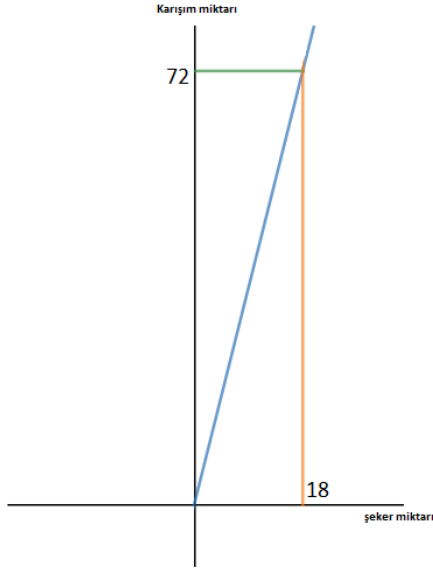
7. Bir sırada ALİ baştan 21.nci , VELİ sondan 35.nci, Veli ile Ali arasına 13 kişi var, Veli sırada Aliden önce (önünde) olduğuna göre sırada kaç kişi vardır?

- A)43 B)41 C)38 D)35 E)32

8.  $\binom{10}{3} + \binom{10}{4} + \binom{10}{5} + \binom{10}{6} + \binom{10}{7} = ?$

- A)1024 B)1012 C)1002 D)912 E)1136

9.



yukarıdaki şekilde bir şeker-su karışımında şeker miktarını göstermektedir.

buna göre bu karışımın yüzde kaç şekerdir?

- A)50 B)40 C)30 D)25 E)18

10.  $f(x)=9^x$   $g(x)=\frac{3}{2} - x$

$(f \circ g)(1) = ?$

- A)1 B)27 C)3 D)9 E)81

11.  $A = \{1,2,3,4\}$  kümesinin elemanları kullanarak oluşturacak rakamları farklı üç basamaklı farklı tüm sayıların toplamı kaçtır ?

- A)6660 B)1440 C)13320  
D)26640 E)133320

12.

$$\int_{\frac{\pi}{6}}^{\frac{\pi}{4}} \sin^2 x \cos x dx = ?$$

- A)  $\frac{\sqrt{2}-1}{24}$  B)  $\frac{2\sqrt{2}-1}{24}$  C)  $\frac{2\sqrt{2}-1}{12}$   
D)  $\frac{2\sqrt{2}-1}{6}$  E)  $\frac{2\sqrt{2}-1}{8}$

13.  $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$   $B = \begin{bmatrix} -4 & -3 \\ -2 & -1 \end{bmatrix}$

$A^2 + B^2 = ?$

- A)  $\begin{bmatrix} 25 & 29 \\ 29 & 25 \end{bmatrix}$  B)  $\begin{bmatrix} -20 & -16 \\ -16 & -20 \end{bmatrix}$  C)  $\begin{bmatrix} 29 & 25 \\ 25 & 29 \end{bmatrix}$   
D)  $\begin{bmatrix} 7 & 15 \\ 12 & 40 \end{bmatrix}$  E)  $\begin{bmatrix} 7 & 12 \\ 15 & 40 \end{bmatrix}$

14.  $x + \frac{1}{x} = \sqrt{29}$  Buna göre x kaçtır ?

- A)  $\frac{\sqrt{29}+1}{2}$  B)  $\frac{\sqrt{29}+2}{2}$  C)  $\frac{\sqrt{29}+5}{2}$   
D)  $\frac{\sqrt{29}+4}{2}$  E)  $\frac{\sqrt{29}+3}{2}$

15.  $1, \bar{7} = x \quad \sqrt{x+1} = ?$   
A)  $\frac{8}{9}$  B)  $\frac{5}{9}$  C)  $1, \bar{2}$  D)  $1, \bar{6}$  E) 3

16.  $\log_3 4 = a \quad \log_{16} 36 = ?$   
A)  $\frac{a+1}{2}$  B)  $\frac{a+1}{2a}$  C)  $\frac{a+2}{2a}$  D)  $\frac{a-2}{2a}$  E)  $\frac{2a}{2+a}$

17.  $\int_6^{12} \frac{dx}{\ln 3 \cdot (x-3)} = ?$   
A)  $\frac{\ln 3}{\ln 4}$  B)  $\frac{1}{\ln 3}$  C) 1 D) 2 E)  $\ln 3 + \ln 4$

18.  $a \Delta b = \begin{cases} 2a - b & a > b \\ -2ab & a \leq b \end{cases}$   
 $3 \Delta (1 \Delta - 3) = ?$   
A) 3 B) -3 C) 15 D) 30 E) -30

19.  $\cos(\arcsin x) = ?$   
A)  $\cos x$  B)  $x$  C)  $\frac{1}{\sqrt{1-x^2}}$   
D)  $\sin x$  E)  $\sqrt{1-x^2}$

20. 40 sayısını, çeyreğe bölüp, 10 a eklendiğinde sonuç kaç olur?  
A) 20 B) 30 C) 130 D) 150 E) 170

21.  $\frac{\sqrt{0.0025} + \sqrt{0.25}}{\sqrt{1.21} - \sqrt{0.0121}} = ?$   
A)  $\frac{9}{5}$  B)  $\frac{5}{11}$  C)  $\frac{5}{9}$  D)  $\frac{9}{11}$  E)  $\frac{11}{9}$

22.  $\lim_{x \rightarrow 0} \frac{e^{2x} - (x+1)^2}{x^2} = ?$   
A) 0 B) 1 C) 2 D) 3 E) 4

$$23. f(x) = \frac{4x+3}{4} \quad g(x) = \frac{3x-5}{4}$$

$$(f \circ g)(x) = 7 \quad x = ?$$

- A)10 B)4 C)3 D)2 E)1

$$24. \frac{\sin 100}{\cos 10} = ?$$

- A)0 B)1 C)2 D) $\frac{1}{2}$  E) $\frac{1}{3}$

$$25. \frac{\sin 15 \cos 35 + \sin 35 \cos 15}{\cos 15 \cos 25 - \sin 25 \sin 15} = ?$$

- A)sin15 B)cos35 C)sin35  
D)cos15 E)1

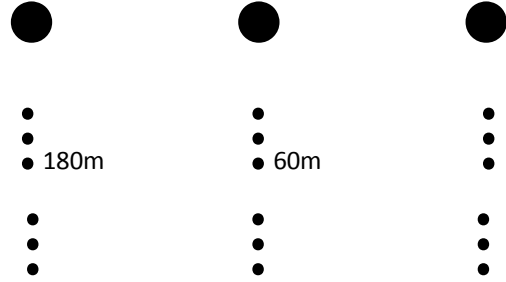
$$26. a, b \in \mathbb{Z}^+ \quad 3a+4b=50$$

$$\sum a = ?$$

- A)20 B)24 C)28 D)30 E)32

27-28 Soruları aşağıdaki bilgilere göre cevaplayınız.

bir top yere atıldığında atıldığı yükseklikten  $\frac{1}{3}$  ü kadar zıplanıyor, ve tekrar zıpladığında geçen seferki zıpladığı yüksekliğin  $\frac{1}{3}$  kadar devam yükseliyor ve böyle devam ediyor.



ilk başta

1. sefer

2. sefer

27. bu top 5.nci seferde kaç metre yükseldi?

- A)20 B) $\frac{20}{3}$  C) $\frac{20}{9}$  D) $\frac{20}{27}$  E) $\frac{20}{81}$

28. bu top 6.nci seferde yükseldiği yükseklik ile 7.nci adımda yükseldiği yüksek arasındaki fark kaçtır?

- A) $\frac{20}{81}$  B) $\frac{20}{243}$  C) $\frac{40}{27}$  D) $\frac{40}{81}$  E) $\frac{40}{243}$

$$29. \sqrt{x} - \frac{1}{\sqrt{x} - \frac{1}{\sqrt{x} - \frac{1}{\dots}}} = a$$

$$\sqrt{x-4} = ?$$

A)  $a^2 - 1$     B)  $\frac{a^2-1}{2}$     C)  $a + \frac{1}{a}$

D)  $\frac{a^2+1}{a}$     E)  $a - \frac{1}{a}$

$$30. \left(1 + \frac{1}{2}\right) \left(1 + \frac{1}{3}\right) \dots \dots \left(1 + \frac{1}{29}\right) = ?$$

A)30    B)25    C)20    D)15    E)10

31. bir torbada 7 lacivert ve 8 sarı top vardır.

bu torbadan rastgele çekilen 2 top aynı renkten çıkma ihtimali?

A)  $\frac{1}{2}$     B)  $\frac{1}{3}$     C)  $\frac{4}{15}$     D)  $\frac{7}{15}$     E)  $\frac{8}{15}$

32. a,b ardışık tam sayılar

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

c=?

A)  $\sqrt{2a-1}$     B)  $a-1$     C)  $\sqrt{a^2-1}$

D)  $\sqrt{1-a^2}$     E)  $\sqrt{1-2a}$

$$33. \frac{\sqrt{-2}\sqrt{-3}\sqrt{-6}}{2-\sqrt{-3}} = ?$$

A)  $\frac{6(2i-\sqrt{3})}{7}$

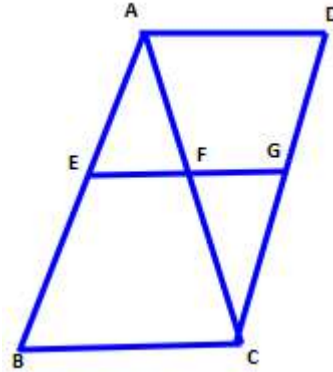
B)  $\frac{6(-2+\sqrt{3}i)}{7}$

C)  $\frac{6(\sqrt{3}-2i)}{7}$

D)  $\frac{6(2-\sqrt{3}i)}{7}$

E)  $\frac{6(\sqrt{3}+2i)}{7}$

34.



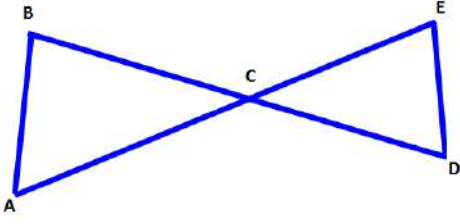
.  $BC \parallel AD \parallel EG$  ,  $EF = 8$

$EG=14$  ,  $BC=24$  ,  $GC=10$

$|ADI| \cdot |IGDI| = ?$

A)45    B)90    C)120    D)180    E)240

35.



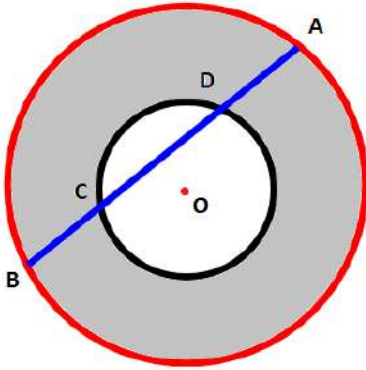
$$\widehat{BAC} = \widehat{CDE}, |AC| = 15$$

$$|CE| = 7, |DE| = 5, |CD| = 6$$

$$|AB| + |BC| = ?$$

- A)  $\frac{77}{15}$  B)  $\frac{33}{2}$  C)  $\frac{55}{2}$  D) 30 E) 35

36.



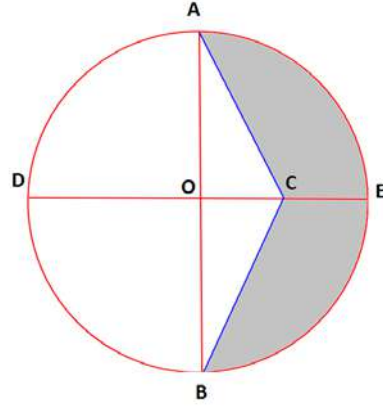
Yukarıdaki aynı merkezli iki çemberde

$$|AB| = 26, |CD| = 10$$

taralı bölge = ?  $br^2$

- A)  $144\pi$  B)  $72\pi$  C)  $36\pi$  D)  $18\pi$  E)  $10\pi$

37.



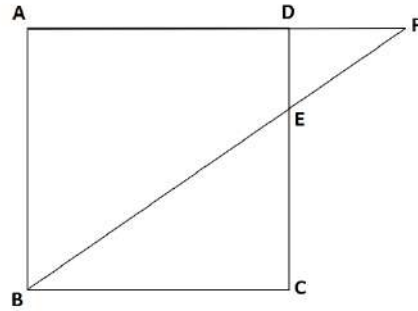
Yukarıdaki O merkezli çemberde  $|OC| \perp |AB|$

$$|OC| = |CE|, |AC| = 4\sqrt{5}$$

olduğuna göre taralı bölgenin alanı kaç  $br^2$ ?

- A)  $32(\pi - 2)$  B)  $16(\pi - 1)$  C)  $32(\pi - 1)$   
D)  $32\pi - 8\sqrt{5}$  E)  $16\pi - 4\sqrt{3}$

38.

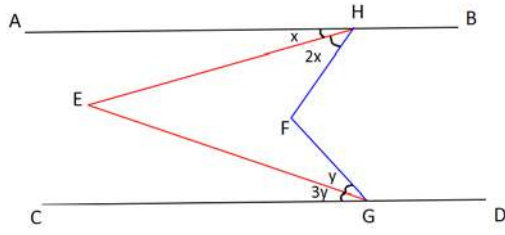


ABCD Kare,  $|DE| = 2, |EC| = 6$

$|DF| = ?$

- A) 8 B) 24 C)  $\frac{8}{3}$  D) 2 E) 3

39.



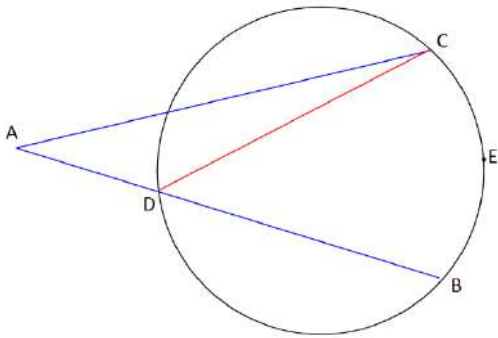
$AB \parallel CD$

$$\widehat{HFG} = 125^\circ \quad \widehat{HEG} = 75$$

$x+y=?$

A)35 B)40 C)30 D)20 E)45

40.



Yukarıdaki çemberde  $\widehat{CEB} = 140$

$$\widehat{ACD} = 20$$

$$\widehat{CAB} = ?$$

A)20 B)30 C)40 D)50 E)60



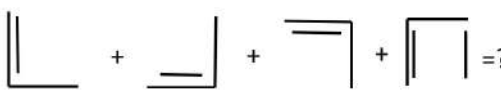
1.  $\overrightarrow{ABCD} = ACBD$  ,  $\overrightarrow{ABCD} = DBCA$


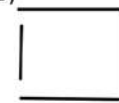
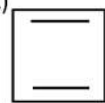

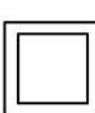
$\overrightarrow{ABCD} = BADC$

$7\overrightarrow{A4D} + 2\overrightarrow{DA7} - \overrightarrow{A54D} = 9351$

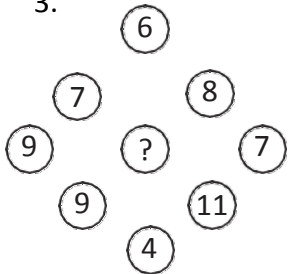
A+D=?

- A)8 B)7 C)6 D)5 E)4

2.  =?

- A)  B)  C)   
 D)  E) 

3.



soru işareti yerine aşağıdakilerden hangisi gelmelidir?

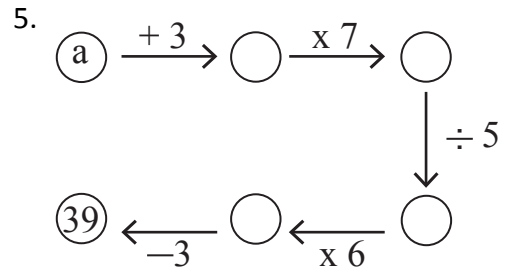
- A)4 B)5 C)6 D)7 E)8

4.  $x \geq 2$  olmak üzere  $f(x+1) = \frac{2f(x)+1}{2}$

ve  $f(1)=4$

$f(33)=?$


- A)36 B)32 C)28 D)24 E)20





a=?


- A) 2 B) 3 C) 4 D) 5 E) 6



6.

 = 1

 = 3

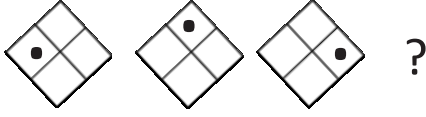
 = 20

 = 12

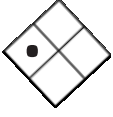
 +  = ?

- A) 36 B) 20 C) 35  
 D) 27 E) 18

7.



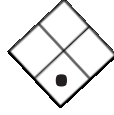
A)



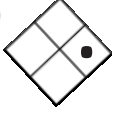
B)



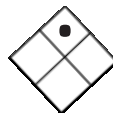
C)



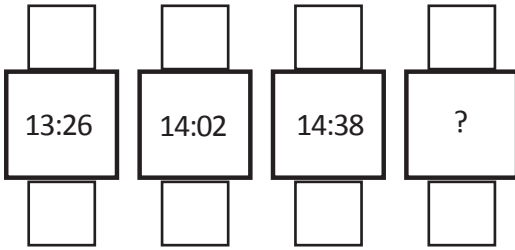
D)



E)



8.



A) 14:14

B) 14:02

C) 15:02

D) 15:14

E) 15:12

9.

$$\begin{array}{l} x=4 \text{ için } y=15 \text{ ve } z=9 \\ x=6 \text{ için } y=35 \text{ ve } z=13 \end{array} \quad \left| \quad x=7 \right.$$

$$y-z=?$$

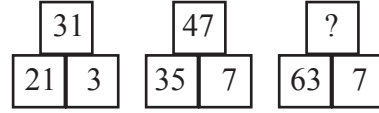
A) 43 B) 38 C) 35 D) 51 E) 33

10.

$$\begin{array}{l} 1 \circ 2 = 5 \\ 1 \circ 5 = 26 \\ 2 \circ 4 = 18 \\ 3 \circ 5 = ? \end{array}$$

A) 28 B) 26 C) 22 D) 20 E) 18

11.



Soru işareti (?) yerine aşağıdakilerden hangi-si gelmelidir?

A) 70

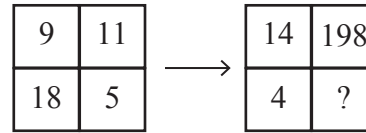
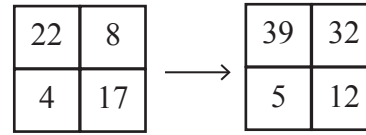
B) 63

C) 67

D) 73

E) 79

12.



A) 30

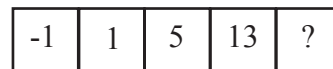
B) 90

C) 81

D) 54

E) 29

13.



A) 27

B) 39

C) 18

D) 29

E) 42

14.

+	a	b	c
a		16	
b			
c			

x	a	b
a		
b		49

a=?

- A)7 B)8 C)9 D)19 E)-33

15.  $\frac{x+3}{y} = \frac{9}{4}$   $x - y = \frac{3}{4}$  Buna göre y=?

- A)1 B)2 C)3 D)4 E)5

16.  $\frac{a+3b}{4b-a} = \frac{5}{2}$   $\frac{5ab-4a^2}{4ab+5b^2}=?$

- A)
- $\frac{6}{13}$
- B)
- $\frac{7}{4}$
- C)
- $\frac{2}{3}$
- D)
- $-\frac{2}{3}$
- E)
- $-\frac{6}{13}$

17. 2325 → 17

1947 → 811

3467 → ?

- A)713 B)1213 C)1242 D)142 E)113

18.

6	11	8	13	10	A	B
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A - B = ?

- A)27 B)-5 C)5 D)3 E)-3

19-20 soruları aşağıdaki bilgilere göre cevaplayınız

*	"c	"d	"e	"f	"g
"c	d	a	e	"d	"e
"d	e	b	a	c	d
"e	a	c	b	d	e
"f	d	d	c	e	a
"g	e	"g	d	a	b

a \* c = e

d \* d = e

19. a \* d = ?

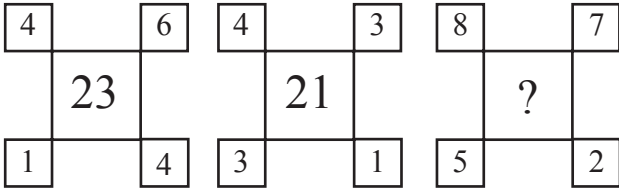
- A)a B)b C)c D)d E)e

20. a \* (x \* e) = c

x = ?

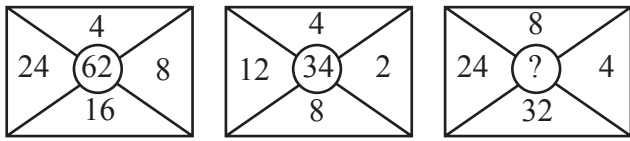
- A)b B)c C)d D)e E)a

21.



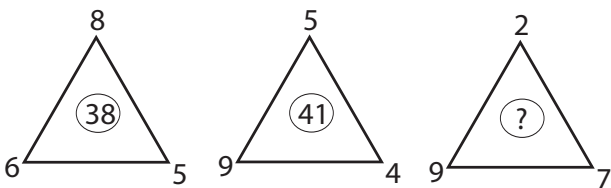
- A)36      B)63      C)64      D)53      E)35

22.



- A)66      B)38      C)83      D)28      E)65

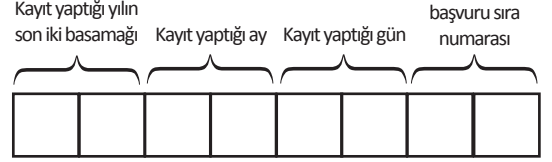
23.



- A)83      B)75      C)55      D)65      E)44

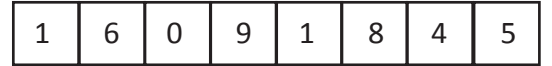
24 - 25 - 26 soruları aşağıdaki bilgilere göre cevaplayınız

Harran üniversitesinin sınavına katılan adayların adaynumarası aşağıdaki formülle hesaplanır:

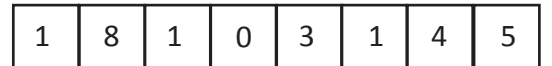


Aday numarası 8 haneden oluşur.

örnek: 18 Eylül 2016 tarihinde kayıt yapan bir adayın 45.nci sırada kaldı, ve aday numarası aşağıdaki gibidir:

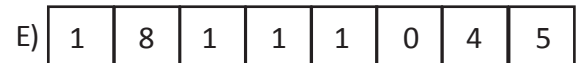
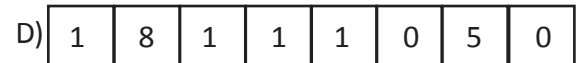
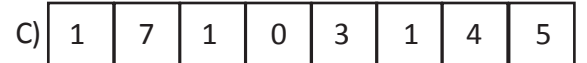
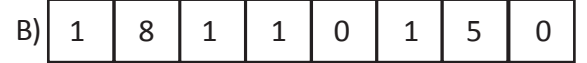
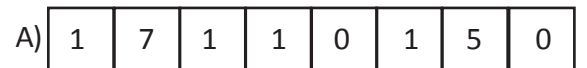


24. 50 kontenjanlı bir sınava kayıt yaptırmış bir kişinin aday numarası:



bu kişi kayıt gününden bir gün önce kayıt yaptığını farkettiği için sonraki gün yeniden kayıt yapıyor ve son sırada yer alıyor.

buna göre bu öğrencinin yeni aday numarası aşağıdakilerden hangisidir?



25. aday numarası:

1	7	1	0	1	0	3	1
---	---	---	---	---	---	---	---

olan öğrenci hangi tarihte kayıt yapmıştır?

- A) 01/01/2017    B) 10/10/2017    C) 01/01/2018  
D) 10/10/2018    E) 31/01/2017

26. 27 Eylül 2018 'de başvuru yapan ve 5.nci sırada yer alan öğrencinin aday numarası kaçtır?

- A) 

1	8	0	9	2	7	0	5
---	---	---	---	---	---	---	---

  
B) 

1	8	2	7	0	9	0	5
---	---	---	---	---	---	---	---

  
C) 

1	8	0	9	2	7	5	0
---	---	---	---	---	---	---	---

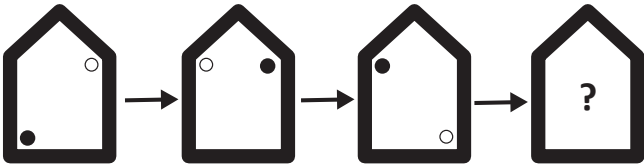
  
D) 

1	7	0	9	2	7	0	5
---	---	---	---	---	---	---	---

  
E) 

1	7	9	0	7	2	5	0
---	---	---	---	---	---	---	---

27.



- A)    B)    C)   
D)    E)

28. ABCDEABCDEABCDEAB.....

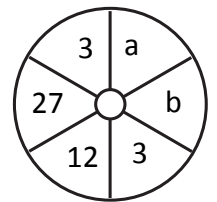
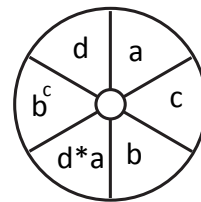
şeklinde devam eden dizinin 152.nci basamağı aşağıdakilerden hangisidir?

- A)B    B)A    C)D    D)E    E)C

29.  $\frac{4}{9} < x < \frac{5}{8}$  olduğuna göre x aşağıdakilerden hangisidir ?

- A)  $\frac{8}{9}$     B)  $\frac{1}{2}$     C)  $\frac{1}{3}$     D)  $\frac{2}{3}$     E)  $\frac{1}{4}$

30.



a+b=?

- A)6    B)7    C)5    D)4    E)9

# HRÖYÖS 2018

## CEVEP ANAHTARI

### ANSWER KEY

#### مفتاح الأجوبة

1. D	21. C	41. B	61. D
2. A	22. B	42. E	62. B
3. C	23. A	43. B	63. D
4. C	24. B	44. E	64. B
5. E	25. E	45. A	65. B
6. E	26. E	46. A	66. A
7. B	27. D	47. D	67. A
8. D	28. E	48. E	68. A
9. D	29. E	49. E	69. B
10. C	30. D	50. A	70. B
11. A	31. D	51. E	71. -
12. B	32. A	52. E	72. -
13. C	33. C	53. D	73. -
14. C	34. A	54. C	74. -
15. D	35. D	55. C	75. -
16. C	36. A	56. E	76. -
17. C	37. C	57. E	77. -
18. E	38. C	58. D	78. -
19. E	39. E	59. B	79. -
20. A	40. D	60. B	80. -

## MANTIK / LOGIC / منطق

1.

-1	-1	-1	-1	-1
----	----	----	----	----

sayı dizisi bir kurala göre dizilmiştir. Bu kural aşağıdakilerden hangisi olabilir?

The above sequence is ordered by a rule. Which of the following can be this rule ?

في المتتالية المعطاة في الأعلى والمرتبة وفقا لقاعدة معينة، أي من التالي يمكن أن تكون تلك القاعدة؟

- A)  $3k-1$     B)  $3k$     C)  $3k+1$   
D)  $3k+2$     E)  $3k+3$

2.

$$\left. \begin{array}{l} XYZ \\ TXZ \\ PTY \end{array} \right\} \begin{array}{l} 456 \\ 369 \\ 539 \end{array}$$

olduğuna göre;  
XPZT aşağıdakilerden hangisidir?

Which of the following is XPZT ?

XPZT أي من الأعداد التالية هي

- A) 4953    B) 3495    C) 9543  
D) 3459    E) 5349

3.

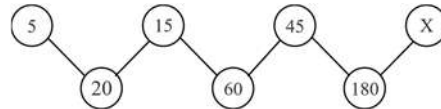
Bir doktor hastasına 5 hap verip yarım saatte bir almasını tavsiye ediyor. Hasta son habı saat 16:00'da aldığına göre; ilk habı saat kaçta almıştır?

A doctor suggests his patient to take 5 pills and take each pill every half an hour. If the patient takes the last pill at 16:00, what time does he take the first pill?

طلب الطبيب من المريض أن يأخذ 5 حبات دواء على أن يأخذ حبة كل نصف ساعة. إذا علمت أن المريض أخذ الحبة الأخيرة في الساعة 16:00، في أي ساعة أخذ الحبة الأولى؟

- A) 13:00    B) 13:30    C) 14:00  
D) 14:30    E) 15:0

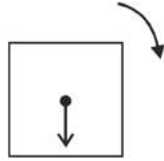
4.



X=?

- A) 120    B) 127    C) 135    D) 145    E) 180

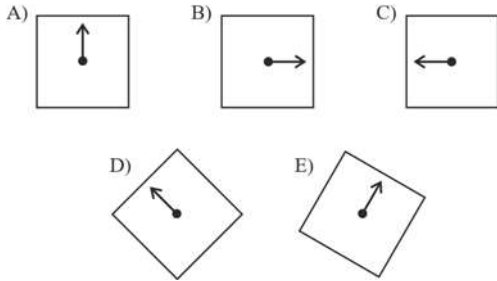
5.



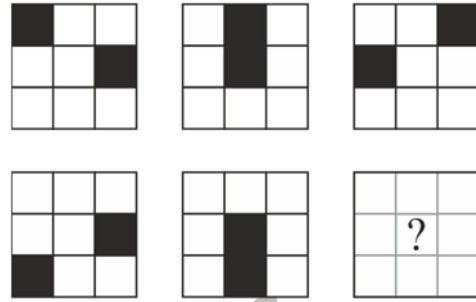
Yukarıdaki şekil ok işareti yönünde  $135^\circ$  çevrilirse; aşağıdaki şekillerden hangisi elde edilir?

If the below figure is turned at shown direction by  $135^\circ$ , which of the following figure can be obtained ?

ندور الشكل المعطى في الأسفل 135 درجة . ما هو الشكل الذي نحصل عليه بعد التدوير؟



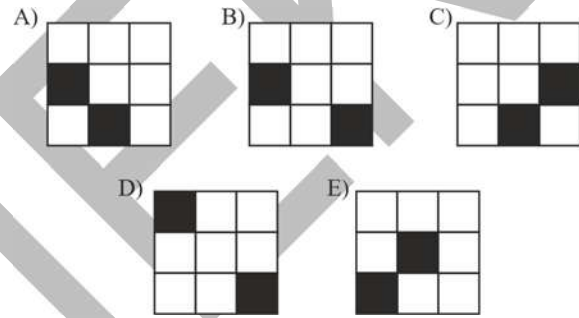
6.



(?) yerine gelecek şekil aşağıdakilerden hangisi olur?

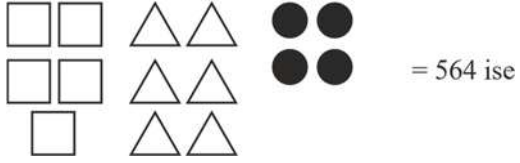
Which of the following should ? be ?

أي من التالي تمثله إشارة الاستفهام؟





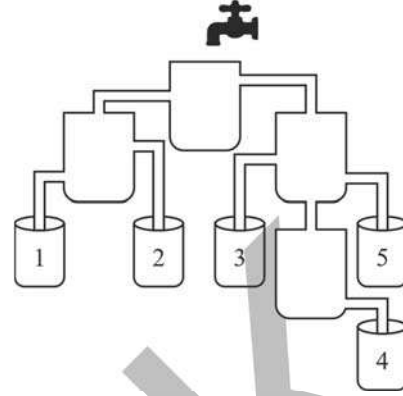
7.



- A) 520      B) 436      C) 426  
D) 420      E) 415

8.

Aşağıdaki kovalardan hangisi; en başta dolar?



- A) 1      B) 2      C) 3      D) 4      E) 5

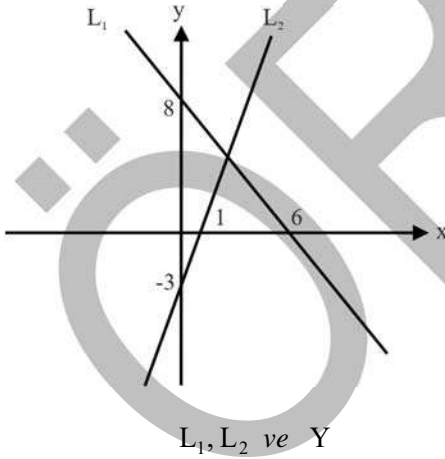
## MATEMATİK / MATHEMATICS / الرياضيات

1.

$$\left. \begin{aligned} aob &= ab - (a+b) \\ a\Delta b &= \frac{ab}{1+a^2+b^2} \end{aligned} \right\} \text{ise } 2o((-3)\Delta 4) = ?$$

- A)  $\frac{15}{26}$  B)  $-\frac{13}{32}$  C)  $-\frac{32}{13}$  D)  $\frac{13}{32}$  E)  $\frac{32}{13}$

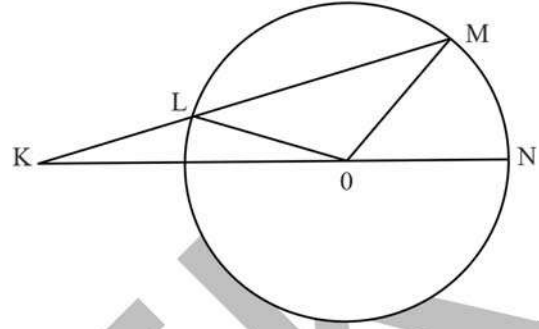
2.



ekseni arasında kalan bölgenin alanını hesaplayınız?

- A)  $\frac{330}{13}$  B)  $\frac{320}{11}$  C)  $\frac{230}{7}$  D)  $\frac{275}{8}$  E) 27

3.



$$|KL| = |OM|, m(\angle LKO) = 20^\circ$$

$m(\angle NOM) = x$  ve O çemberin merkezi ise  $x = ?$

- A) 45 B) 50 C) 60  
D) 75 E) 90

4.

$$\int \frac{dx}{x^2 + 7x + 10} = ?$$

A)  $\frac{1}{4} \ln\left(\frac{3}{5}\right)$     B)  $\frac{1}{3} \ln\left(\frac{4}{5}\right)$     C)  $\frac{1}{5} \ln\left(\frac{4}{3}\right)$

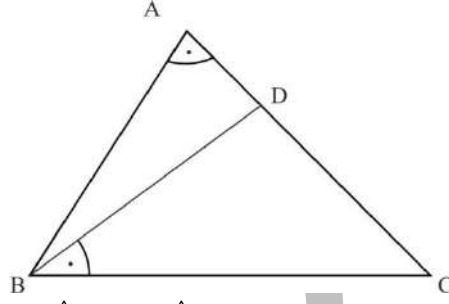
D)  $\frac{1}{3} \ln\left(\frac{5}{4}\right)$     E)  $\frac{1}{4} \ln\left(\frac{5}{3}\right)$

5.

$$a - \frac{3}{a - \frac{3}{a - \frac{3}{a - \frac{3}{a \dots}}}} = 3 \quad \text{ise } a = ?$$

- A) 4    B) 6    C) 5    D) 4    E) 3

6.



$$s(\hat{BAC}) = s(\hat{CBD})$$

$$|CB| = 12, \quad |CD| = 8 \quad \text{ise } \frac{A(\triangle ABD)}{A(\triangle BDC)} = ?$$

- A)  $\frac{9}{4}$     B)  $\frac{3}{2}$     C)  $\frac{4}{5}$   
D)  $\frac{9}{5}$     E)  $\frac{3}{5}$

7.

$$\left. \begin{array}{l} a - x = \sqrt{24} \\ b + y = \sqrt{54} \end{array} \right\} \text{ise } ab - xy - (bx - ay) = ?$$

- A) 18    B) 24    C) 30  
D) 36    E) 48