موسسه متروپل سعادت آباد

سعادت آباد – بلوار دریا – روبروی خیابان صرافها – پلاک 54 – **واحد** 10

METROPOLSAADATABAD

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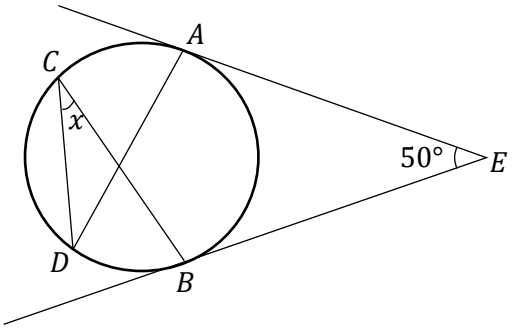
METROPOLSAADATABAD

1.



A ve B Çemberin teğet noktaları

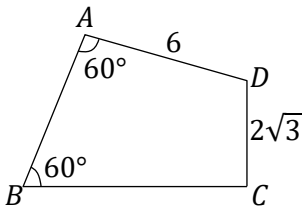
$m(A\hat{E}B) = 50°$

$[AD]$ dairenin merkezinden geçtiğine göre

$m(D\hat{C}B) = x = ?°$

$A)50 \quad B)25 \quad C)30 \quad D)45 \quad E)60$

2.



$ABCD$ dörtgen ve $|DC| = 2\sqrt{3},\ |AD| = 6$

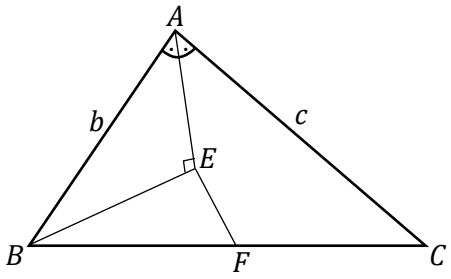
$m(B\hat{A}D) = m(C\hat{B}A) = 60°$

olduğuna göre $A(ABCD) = ?$

$A)18 + 6\sqrt{3} \quad B)9 + 3\sqrt{2} \quad C)18 + 9\sqrt{3}$

$D)6 - 12\sqrt{3} \quad E)18 - 9\sqrt{3}$

3.



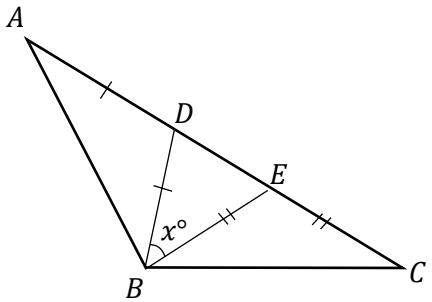
ABC üçgeninde $[AE]$ açıortay, $[AE] \perp [BE]$,

$[BF] = [FC]$, $|AB| = b$ ve $|AC| = c$ olduğuna göre $|EF|$'in b ve c cinsinden eşiti nedir?

$A)\dfrac{c+b}{2} \quad B)\dfrac{c-b}{2} \quad C)\dfrac{c-2b}{2}$

$D)\dfrac{b-c}{3} \quad E)\dfrac{-b+c}{4}$

4.

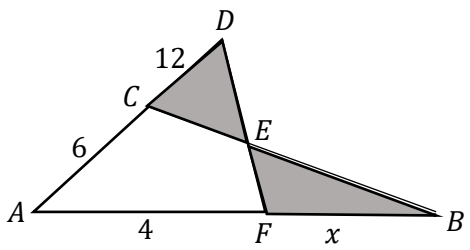


$|AD| = |BD|,\ |BE| = |EC|$ ve $m(A\hat{B}C) = 100°$

$\Rightarrow m(D\hat{B}E) = x = ?$

$A)15 \quad B)12 \quad C)20 \quad D)18 \quad E)24$

5.



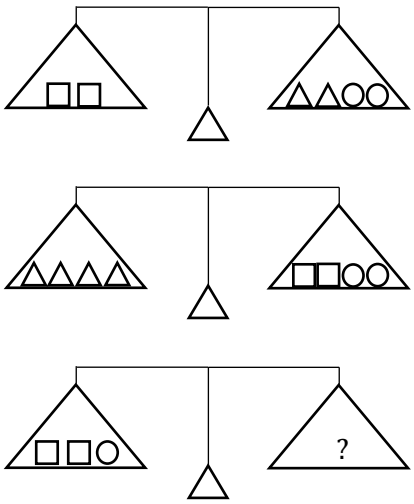
$|AC| = 6,\ |CD| = 12$ ve $|AF| = 4$

taralı alanlar eşit olduğuna göre

$|FB| = x = ?$

$A)6 \quad B)8 \quad C)12 \quad D)16 \quad E)7$

6.



$A)$ ○△ □

$B)$ △△△○

$C)$ ○○○○○○○

$D)$ ○○○○ □

$E)$□□□ ○

7. $\int_{\frac{\pi}{3}}^{\frac{\pi}{2}} e^{cosx} \cdot \sin x \, dx = ?$

$A)2\sqrt{e} - 1 \quad B)1 - \sqrt{e} \quad C)e - \sqrt{e}$

$D)\sqrt{e} - 1 \quad E)\sqrt{e}(e - 1)$

8. $f(x) = \log_5 e^{\frac{3}{x}}$

$\Longrightarrow f^{-1}(-3) = ?$

$A)\log_e -5 \quad B)\frac{-1}{\log 5} \quad C)\ln 5$

$D)\log_e \frac{1}{5} \quad E)\frac{1}{\ln 5}$

9. $\lim_{x\to\infty} \frac{\ln(3x^2 - 5)}{2\sqrt{x}} = ?$

$A) -\infty \quad B) -1 \quad C)0 \quad D)1 \quad E)\infty$

10.

$$\begin{array}{r} BAC \\ -\ ACB \\ \hline 279 \end{array}$$

$\Longrightarrow A + B + C = ?$

$A)6 \quad B)8 \quad C)10 \quad D)9 \quad E)6$

11. $\log_{25} 125 + \log_{36} 6 + \log_{49} 7 = ?$

$A)\frac{3}{2}$ $B)\frac{1}{2}$ $C)\frac{5}{2}$ $D)\frac{7}{2}$ $E)\frac{9}{2}$

12. $\log 5 = a \implies \log 2 = ?$

$A)2-a$ $B)10-a$ $C)1-a$ $D)\frac{1}{a}$ $E)\frac{10}{a}$

13. $0{,}08x + 3{,}4 = 0{,}18x + 1{,}4$

$\implies x = ?$

$A)12$ $B)16$ $C)18$ $D)20$ $E)24$

14. $\dfrac{\sqrt{72} - \dfrac{3}{\sqrt{2}}}{\sqrt{98}} = ?$

$A)\frac{3}{8}$ $B)\frac{9}{7}$ $C)\frac{7}{9}$ $D)\frac{9}{14}$ $E)\frac{11}{7}$

15. bir torbadaki taş sayısının çeyreği yeşil ve kalanı başka renktendir. buna göre bu çantadaki yeşil taş sayısının diğer renkle olan taşlar sayısına oranı nedir?

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

16. Anne, baba ve dört çocuktan oluşan bir aile yuvarlak bir masaya oturacak.

Bu ailedeki küçük çocuk anne ve babası arasında oturması şartıyla kaç farklı şekilde oturabilirler?

$A)18$ $B)12$ $C)24$ $D)36$ $E)60$

17. $\int_{\frac{\pi}{4}}^{\frac{\pi}{3}} \frac{dy}{dx} \sin x \, dx = ?$

$A)\dfrac{\sqrt{3}-\sqrt{2}}{3}$ $B)\dfrac{\sqrt{2}-\sqrt{3}}{2}$ $C)\dfrac{\sqrt{3}-\sqrt{2}}{2}$

$D)\dfrac{\sqrt{2}-\sqrt{3}}{3}$ $E)\dfrac{\sqrt{3}-2}{2}$

18. $\left.\begin{matrix} a \cdot b = 3 \\ a + b = 5 \end{matrix}\right\}$ $a^3 + b^3 = ?$

$A)72$ $B)49$ $C)64$ $D)80$ $E)96$

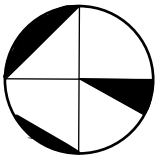
19.

$\dfrac{\prod_{k=6}^{n+5}(5k)}{(n+4)! \cdot 5^n} = ?$

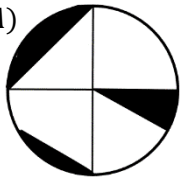
$A)\dfrac{n+5}{n!}$ $B)\dfrac{n+4}{(n+1)!}$ $C)\dfrac{n+4}{n!}$

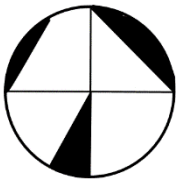
$D)\dfrac{(n+5)!}{n!}$ $E)\dfrac{n!}{(n+5)!}$

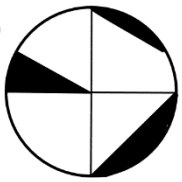
20.

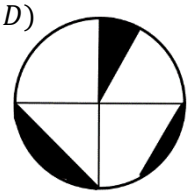


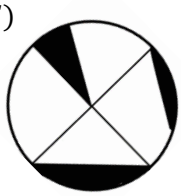
Yukarıdaki şekil sağ yönüne $2790°$ dönerse şekil nasıl olur?

$A)$ 

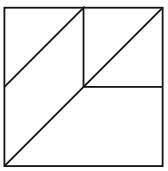
$B)$ 

$C)$ 

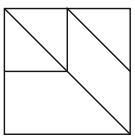
$D)$ 

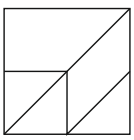
$E)$ 

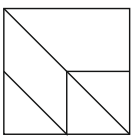
21.

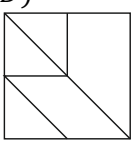


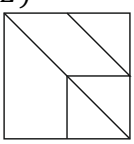
Yukarıdaki şeklin tersi nedir?

$A)$ 

$B)$ 

$C)$ 

$D)$ 

$E)$ 

22.

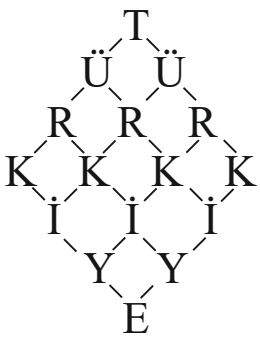
		c	10
			21
	b		24
a	20	14	

Her sütün ve satırdaki sayıların çarpımının sonucu o sütün veya satırın altındaki veya yanındaki sayıdır. (Not: 1'den 7'ye sayılar kullanılacak ve taralı kareler boş kalacak)

Buna göre $a + b + c = ?$

$A)18$ $B)20$ $C)24$ $D)26$ $E)28$

23.



En üstteki "T" harfinden başlayarak kaç farklı şekilde "TÜRKİYE" kelimesi yazılabilir?

$A)35$ $B)16$ $C)36$ $D)24$ $E)20$

24.

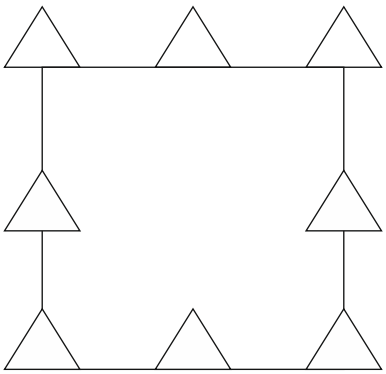
$4123,\ 5357,\ 6427$

Aşağıdaki sayılardan hangisi aynı kurala uymaz?

$A)2021$ $B)3124$ $C)4328$

$D)3721$ $E)6366$

25.

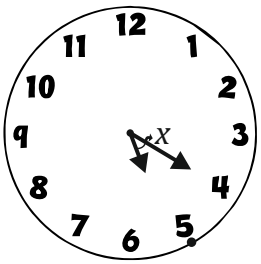


Yukarıdaki karenin her kenarındaki üçgenlerin içerdiği sayların toplamı 12 ise, bu karenin uçlarındaki üçgenlerin içerdiği sayıların toplamı kaçtır?

(Not: 1'den 8'e olan sayılar yer alacak)

$A)6 \quad B)8 \quad C)10 \quad D)12 \quad E)14$

26.



$17{:}20 \implies x = ?^\circ$

$A)30 \quad B)32.5 \quad C)37.5 \quad D)40 \quad E)42.5$

27.

$6 \quad 12 \quad 20 \quad ? \quad 42$

$A)26 \quad B)28 \quad C)30 \quad D)32 \quad E)36$

28.

$\times$	a	b	c
a		16	
b			96
c	24		

$a + b + c = ?$

$A)16 \quad B)18 \quad C)20 \quad D)22 \quad E)24$

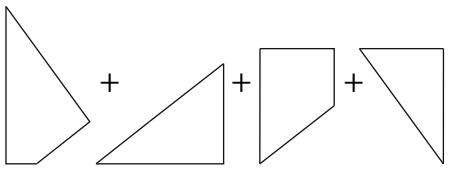
29.

$A = \begin{bmatrix} 1 & 0 \\ -5 & 1 \end{bmatrix} \implies A^{14} = ?$

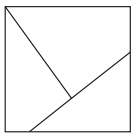
$A) \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix} \quad B) \begin{bmatrix} 1 & 0 \\ 70 & 1 \end{bmatrix} \quad C) \begin{bmatrix} 1 & 0 \\ -70 & 1 \end{bmatrix}$

$D) \begin{bmatrix} 1 & 0 \\ 5^{14} & 1 \end{bmatrix} \quad E) \begin{bmatrix} 1 & 0 \\ -5^{14} & 1 \end{bmatrix}$

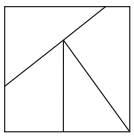
30.



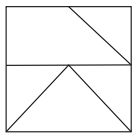
$A)$



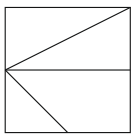
$B)$



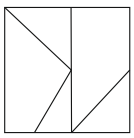
$C)$



$D)$



$E)$



31.

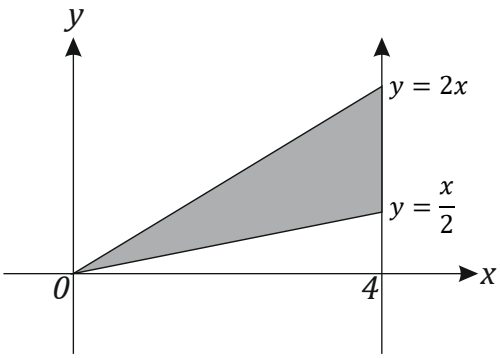
$A = [2 \;\; 1 \;\; -1 \;\; 2]$, $B = \begin{bmatrix} 1 & 0 & 2 & 3 \\ 2 & 1 & 3 & 4 \end{bmatrix}$

$\Longrightarrow A \cdot B^T = ?$

$A) \begin{bmatrix} 4 & 2 & 4 & 6 \\ 1 & 0 & 3 & 1 \\ -3 & -1 & 0 & 3 \\ 8 & 6 & -2 & 2 \end{bmatrix}$ $\quad B)[6 \;\; 9]$ $\quad C) \begin{bmatrix} 6 \\ 9 \end{bmatrix}$

$D)[6 \;\; 10]$ $\quad E) \begin{bmatrix} 2 & 4 \\ 5 & 5 \end{bmatrix}$

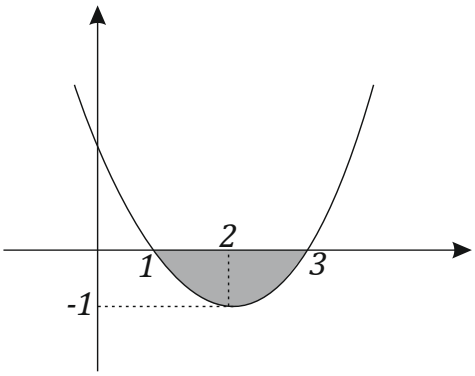
32.



Taralı bölgenin alanı kaçtır?

$A)6$ $\quad B)8$ $\quad C)12$ $\quad D)16$ $\quad E)18$

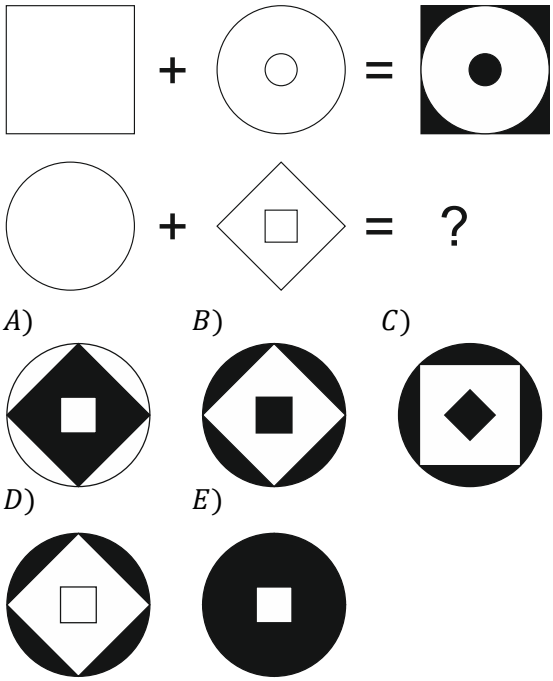
33.



Taralı bölgenin alanı kaçtır?

$A) -\frac{4}{3}$ $\quad B)\frac{8}{3}$ $\quad C)\frac{10}{3}$ $\quad D) -8/3$ $\quad E)\frac{4}{3}$

34.



35.

$\frac{x}{y} = \frac{5}{2}$

$x - y = \frac{27}{2}$ $\quad \Longrightarrow y = ?$

$A)\frac{18}{5}$ $\quad B)\frac{9}{2}$ $\quad C)9$ $\quad D)6$ $\quad E)12$

36.

$\frac{17}{5} = a + \frac{1}{b + \frac{1}{c}}$

$\Longrightarrow a + b + c = ?$

$A)5$ $\quad B)6$ $\quad C)7$ $\quad D)8$ $\quad E)9$

37.

$f(x) = 4x^2 - 2kx + 16$

$x_1 = x_2, \quad f(x_1) = f(x_2) = 0$

$\Rightarrow k = ?$

$A)2 \quad B)4 \quad C)8 \quad D) -4 \quad E)6$

38.

$$f(x) = \begin{cases} x - 3 & : x < 2 \\ 6 & : 2 < x \leq 5 \\ x^2 + k & : x > 5 \end{cases}$$

$f(0) + f(5) + f(7) = 17$

$\Rightarrow k = ?$

$A) -25 \quad B) -45 \quad C) -33 \quad D) -35 \quad E)7$

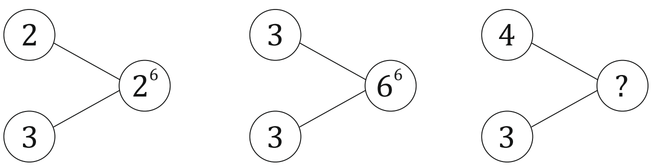
39.

$$\begin{array}{l|l} ABAB3 & \underline{AB} \\ \underline{\;-\;\;\;\;\;\;\;\;} & x \\ \;\;\;\;B & \end{array}$$

$\Rightarrow x + B = ?$

$A)113 \quad B)10113 \quad C)1013 \quad D)10103 \quad E)1103$

40.



$A)12^6 \quad B)12^{12} \quad C)24^6 \quad D)7^6 \quad E)16^7$

41.

$a = \dfrac{\sqrt{2}}{2} \quad , \quad b = \dfrac{\sqrt{5}}{3} \quad , \quad c = \dfrac{\sqrt{9}}{4}$

$? < ? < ?$

$A) a < b < c \quad B) c < b < a \quad C) a < c < b$

$D) c < a < b \quad E) b < c < a$

42.

İki doğal sayının toplamı 10 ise bu iki sayının karelerinin toplamı en az kaçtır?

$A)101 \quad B)11 \quad C)52 \quad D)50 \quad E)48$

43.

$A = \{a, b, c, d, e\}$

A kümesinin alt kümelerinin kaç tanesinde "a" bulunup, "e" bulunmaz?

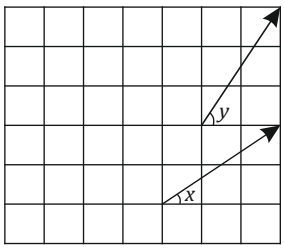
$A)12 \quad B)24 \quad C)6 \quad D)18 \quad E)8$

44.

Hangi sayının 25%'ine 16 eklersek $\frac{1}{3}$'ünü elde ederiz?

$A)96 \quad B)132 \quad C)144 \quad D)192 \quad E)224$

45.

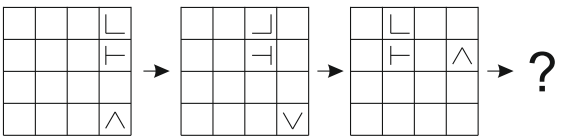


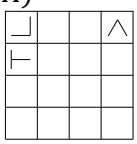
$\tan x \cdot \cos y + \cot y \cdot \sin x = ?$

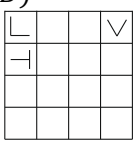
$A)\frac{7}{2\sqrt{13}}$ $B)\frac{2\sqrt{13}}{7}$ $C)\frac{35}{6\sqrt{13}}$

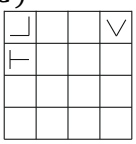
$D)\frac{5}{2\sqrt{13}}$ $E)\frac{8\sqrt{13}}{3}$

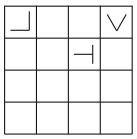
46.

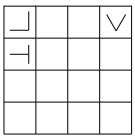


$A)$ 

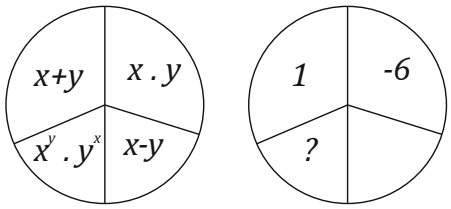
$B)$ 

$C)$ 

$D)$ 

$E)$ 

47.



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

48.

$f(x^2+4x+5) = 3x^2+12x+20$

$\Rightarrow f^{-1}(2) = ?$

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

49.

Bir işi Ali, Semih ve Husam sırayla 12, 18 ve 36 günde Allah'ın izniyle bitirebilirler.

Ali ve Semih beraber 6 günde çalıştıktan sonra Ali onlara katılıyor. Buna göre kalan iş kaç günde biter?

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

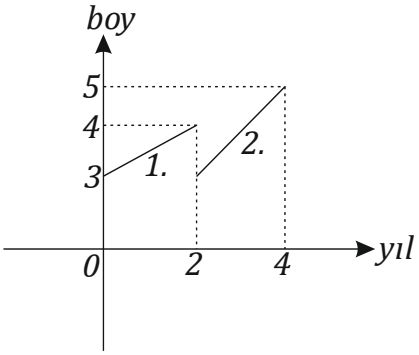
50.

$f(x) = e^{\cos x} \quad \Rightarrow f'\left(\frac{x}{2}\right) = ?$

$A)\sin\frac{x}{2}\cdot e^{\cos\frac{x}{2}}$ $B)-\frac{e^{\cos\frac{x}{2}}}{\sin\frac{x}{2}}$ $C)-\sin\frac{x}{2}\cdot e^{\cos\frac{x}{2}}$

$D)-\frac{\sin\frac{x}{2}\cdot e^{\cos\frac{x}{2}}}{2}$ $E)-\cos\frac{x}{2}\cdot e^{\sin\frac{x}{2}}$

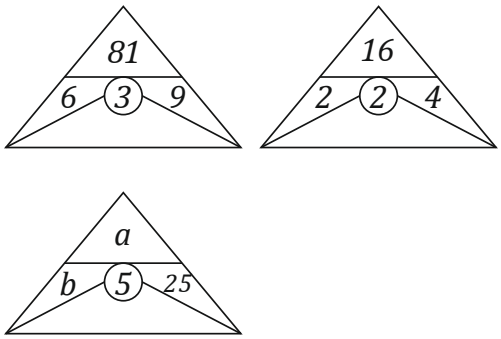
51.



İki farklı ağacın yıllara göre boylarının farkları grafikle gösterilmiştir. Buna gör bu iki ağaç hangi yılda eşit boyda olacaklar?

$A)3 \quad B)4 \quad C)5 \quad D)6 \quad E)7$

52.



$\frac{a}{b} = ?$

$A)\frac{625}{24} \quad B)\frac{125}{24} \quad C)\frac{25}{24} \quad D)4 \quad E)5$

53.

$$\begin{array}{l|l} 8x^4 - 6x^3 + 3x - m & \frac{2x^2 - 1}{B(x)} \\ \underline{-\qquad\qquad\qquad\qquad} & \\ 0 & \end{array}$$

$m = ?$

$A) -2 \quad B)2 \quad C) -1 \quad D)1 \quad E)4$

1. B
2. C
3. B
4. C
5. B
6. C
7. D
8. D
9. C
10. B
11. C
12. C
13. D
14. D
15. E
16. B
17. C
18. D
19. A
20. D
21. B
22. C
23. E
24. D
25. D
26. D
27. C
28. D
29. C
30. B
31. D
32. C
33. E
34. B
35. C
36. C
37. C
38. D
39. C
40. C
41. A
42. D
43. E
44. D
45. E
46. E
47. E
48. B
49. D
50. C
51. B
52. B
53. B