



PARABOL YANIT ANAHTARI

➤ TEMEL KAVRAM – 1

- | | | | |
|-------|-------|-------|-------|
| 1. 18 | 3. 2 | 5. 18 | 7. 15 |
| 2. 3 | 4. 15 | 6. 3 | |

➤ TEMEL KAVRAM – 2

- | | | | |
|-------|-------|-------|----------|
| 1. 8 | 3. -3 | 5. -2 | 7. (0,4) |
| 2. 13 | 4. 3 | 6. 27 | |

➤ TEMEL KAVRAM – 3

- | | | |
|------------|-------|------|
| 1. $a > 2$ | 3. -2 | 5. 3 |
| 2. 6 | 4. 2 | |

➤ TEMEL KAVRAM – 4

- | | |
|-------|--------|
| 3. -6 | 5. -12 |
| 4. 0 | 6. 3 |

➤ TEMEL KAVRAM – 5

- | | |
|-------------------|-------|
| 1. $[-1, \infty)$ | 3. 28 |
| 2. $(-\infty, 4]$ | 4. 16 |

➤ TEMEL KAVRAM – 6

- | | | | |
|--------|-------|--------|--------|
| 1. -32 | 3. 15 | 5. 150 | 7. 180 |
| 2. 16 | 4. -4 | 6. 49 | |



PARABOL YANIT ANAHTARI

➤ TEMEL KAVRAM – 7

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|-------|-------|-------|
| 1. 2 | 3. -4 | 5. -8 |
| 2. 30 | 4. 10 | |

➤ TEMEL KAVRAM – 8

- | | | |
|------------------|------|------|
| 1. $\frac{7}{2}$ | 3. 6 | 5. 8 |
| 2. 12 | 4. 6 | |

➤ TEMEL KAVRAM – 9

- | | | |
|------|-------|-------|
| 1. 8 | 3. 1 | 5. -5 |
| 2. 4 | 4. -6 | 6. 8 |

➤ TEMEL KAVRAM – 10

- | | | |
|-------|-------|-------|
| 1. 32 | 3. 34 | 5. 64 |
| 2. 7 | 4. -1 | 6. 8 |

➤ TEMEL KAVRAM – 11

- | | | |
|-------|-------|--------|
| 1. 24 | 3. 8 | 5. 100 |
| 2. 56 | 4. 64 | 6. 4 |

➤ TEMEL KAVRAM – 12

- | | | | |
|--------|------|----------------|-------|
| 1. -18 | 3. 4 | 5. 4 | 7. -2 |
| 2. 11 | 4. 3 | 6. $7\sqrt{2}$ | 8. 7 |



EŞİTSİZLİKLER YANIT ANAHTARI

TEMEL KAVRAM – 1

1. $(-1, 4)$ 3. $\mathbb{R} \setminus [0, 6]$

TEMEL KAVRAM – 2

1. 7 3. $\frac{3}{2}$ 5. 5
2. 10 4. 11 6. 2

TEMEL KAVRAM – 3

1. 0 → Çift kat kök 2. $(2, \infty)$ 3. 7 4. 3
4 → Çift kat kök
-4 → Tek kat kök

TEMEL KAVRAM – 4

1. $(-\infty, -2] \cup [2, \infty)$ 3. 3 5. 4 7. $(-\infty, -2)$
2. $(-6, 0) \cup (6, \infty)$ 4. $(0, 2) \cup (5, \infty)$ 6. $(-\infty, 1) \setminus \{-3\}$

TEMEL KAVRAM – 5

1. $[2, \infty)$ 3. -14 5. -2
2. \emptyset 4. 11 6. $(-\infty, 3) \cup \{4\}$

TEMEL KAVRAM – 6

1. $(-\infty, 9)$ 3. 9 5. $(2, 6]$ 7. 3
2. 17 4. 4 6. $[-4, 4]$ 8. 10

TEMEL KAVRAM – 7

1. 10 3. $[-3, 12]$ 5. 3
2. $(-4, 4)$ 4. 5 6. 3

TEMEL KAVRAM – 8

1. $(-5, 3) \cup (5, \infty)$ 3. $(-1, 1)$
2. $(-2, -1)$



PERMÜTASYON YANIT ANAHTARI

> TEMEL KAVRAM – 1

- | | | | |
|-------|--------|-------|-------|
| 1. 76 | 3. 160 | 5. 40 | 7. 45 |
| 2. 9 | 4. 60 | 6. 35 | 8. 16 |

> TEMEL KAVRAM – 2

- | | | | | |
|-------|---------|---------|----------|-----------|
| 1. 30 | 3. 1024 | 5. 48 | 7. 3^5 | 9. 65 |
| 2. 16 | 4. 720 | 6. 1680 | 8. 360 | 10. 3^6 |

> TEMEL KAVRAM – 3

- | | | |
|-------|-------|--------|
| 1. 7 | 3. 38 | 5. 72 |
| 2. 25 | 4. 36 | 6. 380 |

> TEMEL KAVRAM – 4

- | | | |
|-------|-------|-------|
| 1. 35 | 3. 84 | 5. 32 |
| 2. 30 | 4. 91 | 6. 60 |

> TEMEL KAVRAM – 5

- | | | |
|-------|------------------|--------|
| 1. 24 | 3. 756 | 5. 576 |
| 2. 48 | 4. $5! \cdot 4!$ | 6. 252 |

> TEMEL KAVRAM – 6

- | | | | | |
|--------|--------|--------|---------------------------------|-------------------|
| 1. 144 | 3. 48 | 5. 96 | 7. $7! \cdot 6$ | 9. 144 |
| 2. 240 | 4. 144 | 6. 240 | 8. $4! \cdot 5 \cdot 4 \cdot 3$ | 10. a) 360 b) 240 |



PERMÜTASYON YANIT ANAHTARI

> TEMEL KAVRAM – 7

1. a) 25 b) 60 c) 250
d) 36 e) 125 f) 50
2. a) 180 b) 300 c) 720
d) 36 e) 360 f) 60
3. 32
4. 65
5. 35
6. 161
7. 24

> TEMEL KAVRAM – 8

1. 6
2. 10
3. 10
4. 8
5. 6
6. 2
7. a) 210 b) 480 c) 60 d) 720

> TEMEL KAVRAM – 9

1. a) 360 b) 12 c) 24
2. a) 210 b) 60 c) 60
3. a) 300 b) 120 c) 100 d) 240
4. a) 300 b) 300 c) 260 d) 140 e) 136

> TEMEL KAVRAM – 10

1. 45
2. 18
3. 5
4. F
5. $\frac{4!}{2!} \cdot 5 \cdot 4 \cdot 3$
6. 120
7. 90
8. 42
9. 5400



KOMBİNASYON ve BİNOM YANIT ANAHTARI

▶ TEMEL KAVRAM – 1

1. 10	3. 5	5. 12
2. 2020	4. 4	

▶ TEMEL KAVRAM – 2

1. 10	3. 8	5. 18	7. 13
2. 8	4. 2^{17}	6. 28	8. 21

▶ TEMEL KAVRAM – 3

1. 9	3. 10	5. 19	7. 30	9. 155
2. 99	4. 14	6. 19	8. 50	

▶ TEMEL KAVRAM – 4

1. 9	3. 10	5. 40	7. 186	9. 34
2. 27	4. 47	6. 116	8. 70	

▶ TEMEL KAVRAM – 5

1. 10	3. 168	5. 105	7. 20
2. 70	4. 30	6. 12	8. 55

▶ TEMEL KAVRAM – 6

1. 360	3. 1440	5. 1125	7. 444
2. $7!$	4. 60	6. 360	8. 360



KOMBİNASYON ve BİNOM YANIT ANAHTARI

TEMEL KAVRAM – 7

1. a) 56
b) 84
c) 28
d) 18
e) 140

2. a) 16
b) 15
c) 25

3. a) 15
b) 20
c) 10
d) 15

4. a) $\frac{12!}{6^4 \cdot 4!}$

b) $\frac{\binom{12}{4}\binom{8}{4}\binom{4}{4}}{3!}$

c) $\frac{\binom{12}{6}\binom{6}{3}\binom{3}{3}}{2!}$

d) $\frac{\binom{12}{5}\binom{7}{5}\binom{2}{2}}{2!} + \frac{\binom{12}{2}\binom{10}{2}\binom{8}{2}\binom{6}{2}\binom{4}{2}\binom{2}{2}}{6!}$

TEMEL KAVRAM – 8

✓ Farklı Nesnelerin Farklı Kutulara Dağılımı:

a. 3^8 b. 84 c. $\binom{10}{2}\binom{8}{3}\binom{5}{5}$ d. $\binom{10}{2}$ e. 36

✓ Özdeş Nesnelerin Farklı Kutulara Dağılımı:

a. 1 b. 84 c. 35 d. 10 e. 36

✓ Farklı Nesnelerin Özdeş Kutulara Dağılımı:

a. 2^7 b. 60 c. $\frac{\binom{9}{2}\binom{7}{2}\binom{5}{5}}{2}$ d. $\binom{6}{2}\binom{4}{4} + \frac{\binom{6}{3}\binom{3}{3}}{2}$

TEMEL KAVRAM – 9

Uygulama

a. 45 b. 84 c. 27 d. 25 e. 29

Uygulama

a. 35 b. $\binom{21}{3}$ c. 126 d. 48

Uygulama

a. 42 b. 5

TEMEL KAVRAM – 10

a. 10

c. 24

e. 6

g. 13

b. 17

d. 31

f. 10

h. 42

TEMEL KAVRAM – 11

1. a) $\binom{9}{2} - \binom{4}{2} - \binom{5}{2} + 2$

2. a) $\binom{8}{2} - \binom{9}{2} + 1$

3. a) $\binom{9}{3} - 4$

4. a) $\binom{5}{2}\binom{6}{2}$

b) $\binom{9}{3} - \binom{4}{3} - \binom{5}{3}$

b) $\binom{8}{3} - \binom{3}{3}$

b) $\binom{9}{4} - 6 \cdot 4$

b) $\binom{4}{1}\binom{6}{2}$

c) $\binom{4}{2}\binom{5}{2}$

c) $\binom{8}{4} - \binom{3}{3}\binom{5}{1}$

c) 32

c) $\binom{4}{1}\binom{5}{1}$

d) $\binom{4}{2} + \binom{4}{1}\binom{4}{1}$

d) $\binom{3}{2} \cdot \binom{5}{1}$

d) $\binom{5}{2}\binom{6}{2} - \binom{4}{1}\binom{5}{1}$

e) $\binom{4}{2} + \binom{3}{1}\binom{4}{1}$

e) $\binom{4}{1}\binom{2}{1}\binom{3}{1}\binom{2}{1}$



KOMBİNASYON ve BİNOM YANIT ANAHTARI

▶ TEMEL KAVRAM – 12

1. a) 12 b) 36

2. a) 16 b) 81

3. a) 11 b) 10

4. a) 4 b) 10 c) 8

▶ TEMEL KAVRAM – 13

1. 560

3. 2

5. 80

7. $-\binom{12}{9}$

2. $-54\sqrt{3}$

4. $\frac{5}{3}$

6. 12

▶ TEMEL KAVRAM – 14

1. 16

3. Yoktur.

5. 2

7. 7

2. 54

4. 20

6. 2

▶ TEMEL KAVRAM – 15

1. -35

3. 6

5. -44

7. 35

2. 15

4. 80

6. -16

7. 240



OLASILIK YANIT ANAHTARI

TEMEL KAVRAM – 1

1. $\frac{7}{8}$ 2. $\frac{3}{4}$ 3. $\frac{2}{3}$ 4. $\frac{3}{20}$ 5. $\frac{4}{7}$ 6. $\frac{1}{16}$ 7. $\frac{7}{20}$ 8. 116
9. a) $\frac{1}{6}$ b) $\frac{5}{18}$ c) $\frac{1}{12}$ d) $\frac{1}{6}$ e) $\frac{7}{36}$ f) $\frac{1}{2}$ g) $\frac{1}{6}$ h) $\frac{5}{18}$ k) $\frac{1}{4}$ m) $\frac{3}{4}$ n) $\frac{5}{18}$ p) $\frac{1}{3}$
10. a) $\frac{1}{2}$ b) $\frac{1}{2}$ c) $\frac{1}{4}$ d) $\frac{3}{4}$ e) $\frac{3}{4}$ 11. a) $\frac{1}{4}$ b) $\frac{3}{8}$ c) $\frac{1}{8}$ d) $\frac{7}{8}$ e) $\frac{1}{2}$
12. $\frac{1}{2}$ 13. $\frac{1}{6}$ 14. $\frac{1}{36}$ 15. $\frac{3}{7}$ 16. $\frac{2}{3}$ 17. $\frac{1}{5}$ 18. $\frac{32}{35}$ 19. $\frac{1}{6}$
20. $\frac{1}{8}$ 21. $\frac{12}{25}$ 22. $\frac{2}{7}$ 23. $\frac{1}{21}$ 24. $\frac{7}{10}$ 25. $\frac{3}{5}$ 26. $\frac{2}{3}$ 27. $\frac{1}{35}$
28. $\frac{1}{7}$ 29. $\frac{1}{15}$ 30. $\frac{5}{7}$ 31. $\frac{1}{5}$ 32. $\frac{4}{5}$ 33. $\frac{1}{36}$ 34. $\frac{1}{105}$ 35. $\frac{1}{6}$
36. $\frac{1}{4}$ 37. $\frac{7}{20}$ 38. $\frac{1}{3}$ 39. $\frac{2}{5}$ 40. $\frac{4}{9}$ 41. $\frac{9}{25}$ 42. $\frac{1}{8}$ 43. $\frac{3}{7}$
44. $\frac{1}{55}$ 45. $\frac{3}{10}$ 46. $\frac{7}{13}$ 47. $\frac{3}{7}$ 48. $\frac{5}{9}$ 49. $\frac{9}{28}$ 50. $\frac{1}{30}$ 51. $\frac{2}{7}$
52. $\frac{1}{55}$ 53. $\frac{1}{84}$ 54. $\frac{4}{33}$ 55. $\frac{5}{6}$ 56. 8 57. $\frac{3}{92}$ 58. 9 59. 34

TEMEL KAVRAM – 2

1. a) $\frac{5}{10}$ b) $\frac{5}{8}$ 2. a) $\frac{1}{4}$ b) $\frac{3}{4}$ 3. $\frac{39}{119}$ 4. $\frac{3}{5}$ 5. $\frac{23}{30}$ 6. $\frac{4}{33}$ 7. $\frac{17}{36}$ 8. % 56
9. $\frac{7}{10}$ 10. $\frac{11}{18}$ 11. $\frac{17}{40}$ 12. $\frac{7}{12}$ 13. $\frac{23}{49}$ 14. $\frac{3}{10}$ 15. $\frac{7}{15}$ 16. $\frac{3}{7}$
17. $\frac{7}{11}$ 18. $\frac{1}{2}$ 19. $\frac{8}{13}$ 20. $\frac{6}{11}$ 21. $\frac{1}{2}$ 22. $\frac{3}{11}$ 23. $\frac{5}{8}$ 24. $\frac{1}{6}$
25. $\frac{2}{5}$ 26. $\frac{10}{19}$ 27. $\frac{2}{3}$ 28. $\frac{14}{17}$ 29. $\frac{1}{2}$ 30. $\frac{5}{19}$ 31. $\frac{3}{13}$ 32. $\frac{1}{3}$
33. $\frac{8}{13}$ 34. $\frac{2}{5}$ 35. $\frac{1}{3}$ 36. $\frac{9}{13}$ 37. $\frac{2}{7}$ 38. $\frac{1}{16}$ 39. $\frac{9}{14}$ 40. $\frac{35}{64}$
41. $\frac{2}{5}$ 42. 25 43. $\frac{5}{16}$ 44. $\frac{3}{5}$ 45. $\frac{3}{7}$ 46. $\frac{4}{15}$ 47. $\frac{7}{8}$ 48. $\frac{2}{9}$
49. $\frac{1}{35}$ 50. $\frac{1}{24}$ 51. $\frac{1}{6}$ 52. $\frac{5}{6}$ 53. $\frac{5}{66}$ 54. 10 55. $\frac{3}{8}$ 56. $\frac{5}{72}$
57. $\frac{9-\pi}{9}$ 58. $\frac{1}{16}$ 59. $\frac{4}{15}$ 60. $\frac{1}{7}$ 61. $\frac{9}{16}$ 62. $\frac{1}{3}$ 63. $\frac{5}{21}$ 64. $\frac{7}{36}$
65. $\frac{3}{4}$ 66. $\frac{17}{24}$ 67. $\frac{4}{5}$ 68. $\frac{1}{4}$ 69. $\frac{9}{13}$ 70. $\frac{11}{25}$



TRİGONOMETRİ YANIT ANAHTARI

TEMEL KAVRAM – 1

- | | | | | |
|-----------------------------|-----------|---------------------------|--------------------------|----------|
| 1. 19230 ^{II} | 4. 5 | 7. 4 | 10. 15° veya 75° | 13. 800 |
| 2. 2° 46' 40 ^{II} | 5. 111 km | 8. $\frac{3\sqrt{3}}{4}$ | 11. $\frac{\sqrt{2}}{3}$ | 14. 680° |
| 3. 35° 52' 14 ^{II} | 6. 3 | 9. $\frac{3+\sqrt{3}}{4}$ | 12. $\sqrt{2}$ | 15. 47 |

TEMEL KAVRAM – 2

- | | | | | |
|-----------------------|-------------|---------------|----------------------------------|--------------|
| a. $\frac{\csc x}{2}$ | c. -1 | e. $\tan x$ | g. $\cos^4 x$ | k. $-\cos x$ |
| b. $2\csc x$ | d. $\tan x$ | f. $\tan^6 x$ | h. $\frac{1+\sin^2 x}{\sin x+1}$ | m. 1 |

TEMEL KAVRAM – 3

- | | | | | |
|--------------------|-------------------------|-------|----------------|----------------------------|
| 1. $\frac{4}{9}$ | 3. $\frac{\sqrt{5}}{2}$ | 5. -3 | 7. 23 | 9. 14 |
| 2. $\frac{11}{16}$ | 4. 7 | 6. 14 | 8. $2\sqrt{5}$ | 10. $\frac{\sqrt{5}+3}{2}$ |

TEMEL KAVRAM – 4

- | | | | | |
|------------------|-------------|---------------------------------------|---|---|
| 1. 0 | 8. 2. | 11. $\frac{\tan \alpha}{\sec \alpha}$ | 13. $\frac{\sin(180-2\alpha)}{2}$ | 16. $1-\sin \alpha$ |
| 2. E | 9. 1 veya 4 | $\sec \alpha - 1$ | 14. $\frac{(1+\cos \alpha)}{2} \sin \alpha$ | 17. $\frac{\sin \alpha (\sec \alpha - \cos \alpha)}{2}$ |
| 4. $\frac{1}{3}$ | 10. 7 | 12. $\frac{\cot \alpha}{\csc \alpha}$ | 15. $\sec \alpha - 1$ | 18. $\frac{1}{2} \left(\frac{2\sin 2\alpha}{1+\cos 2\alpha} + \sin 2\alpha \right) \cdot (1-\cos 2\alpha)$ |
| | | $\csc \alpha - 1$ | | |

TEMEL KAVRAM – 6

- | | | | |
|-------|-------|----------------|-------|
| 1. 4 | 3. 30 | 5. $2\sqrt{2}$ | 7. 9 |
| 2. 14 | 4. 59 | 6. 15 | 8. 13 |



TRİGONOMETRİ YANIT ANAHTARI

TEMEL KAVRAM – 7

1. $-\frac{x}{x+1}$

2. 0

3. 2

TEMEL KAVRAM – 8

1. II ve III

2. I ve III

3. Yalnız I

TEMEL KAVRAM – 9

1. $\frac{2}{7}$

3. $-\frac{3\sqrt{2}}{4}$

5. $\sqrt{3} - \sqrt{2}$

7. 45,5

9. 1

2. $\frac{1}{2}$

4. $\frac{3}{8}$

6. $\frac{6-2\sqrt{3}}{9}$

8. $-\frac{17}{2}$

TEMEL KAVRAM – 10

1. 4

3. $-\frac{3}{2}$

5. 3

7. $\frac{4}{3}$

2. $\frac{7}{12}$

4. $-\frac{8}{15}$

6. -4

8. $\frac{\sqrt{2}}{4}$

TEMEL KAVRAM – 11

1. $\sqrt{2}$

5. 3

9. $\frac{4}{3}$

13. $\frac{\sqrt{5}}{2}$

17. $\frac{12}{5}$

2. $\frac{1}{2}$

6. $\frac{3}{2\sqrt{21}}$

10. 2

14. $\frac{3}{4}$

18. $\frac{1}{4}$

3. $\frac{12}{13}$

7. 9

11. $\frac{12}{7}$

15. $\frac{\sqrt{2}}{4}$

4. 3

8. $\frac{1}{2}$

12. $\frac{1}{2}$

16. $\frac{1}{3}$



TRİGONOMETRİ YANIT ANAHTARI

► TEMEL KAVRAM – 12

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|-------------------|-------------------|-------------------|---------------------------------|-------|
| 1. $\sqrt{19}$ | 5. $2\sqrt{10}$ | 9. $\frac{3}{7}$ | 13. $\sqrt{29}$ | 17. 5 |
| 2. 0 | 6. $\sqrt{10}$ | 10. $\sqrt{21}$ | 14. $\frac{\sqrt{2}}{\sqrt{5}}$ | |
| 3. 135° | 7. $2\sqrt{3}$ | 11. $\frac{1}{2}$ | 15. 4 | |
| 4. $\frac{5}{16}$ | 8. $\frac{11}{7}$ | 12. $\sqrt{97}$ | 16. 5 | |

► TEMEL KAVRAM – 13

- | | | | | |
|----------------|--------------------------|------------------|--------------------------------|-------------------------|
| 1. $8\sqrt{3}$ | 3. $\frac{16}{\sqrt{3}}$ | 5. 100 | 7. 60 | 9. $\frac{1}{\sqrt{2}}$ |
| 2. 120° | 4. $\frac{2}{3}$ | 6. $\frac{2}{3}$ | 8. 60° veya 120° | 10. $\frac{7}{15}$ |

► TEMEL KAVRAM – 13

- | | | | | |
|-------|-----------------|-------|------------------|------|
| 1. 12 | 2. $12\sqrt{3}$ | 3. 18 | 4. $\frac{1}{2}$ | 5. 6 |
|-------|-----------------|-------|------------------|------|

► TEMEL KAVRAM – 14

- | | | | | |
|--------------------------|---------------------|----------------------------|----------------------|---------------------------|
| 1. $\frac{\sqrt{3}}{2}$ | 5. $2+\sqrt{3}$ | 9. 1 | 13. 7 | 17. $2-\sqrt{2}$ |
| 2. $-\frac{\sqrt{3}}{2}$ | 6. -1 | 10. 1 | 14. $\frac{7}{12}$ | 18. 1 |
| 3. $\sqrt{2}$ | 7. $2\sin 50^\circ$ | 11. $\sqrt{\frac{k}{1-k}}$ | 15. $-\frac{27}{32}$ | 19. 1 |
| 4. $\frac{\sqrt{3}}{2}$ | 8. 1 | 12. 2 | 16. 1 | 20. $\frac{2\sqrt{3}}{3}$ |

► TEMEL KAVRAM – 14

- | | | | | |
|-------------------|-------------------|--------------------|----------------|-----------------------|
| 1. $-\frac{7}{6}$ | 4. $\sqrt{3}$ | 7. 135° | 10. 8 | 13. $-\frac{117}{44}$ |
| 2. -1 | 5. -1 | 8. $\frac{16}{11}$ | 11. -1 | 14. 25° |
| 3. $\frac{1}{5}$ | 6. $-\frac{7}{5}$ | 9. 3 | 12. $\sqrt{3}$ | |



TRİGONOMETRİ YANIT ANAHTARI

▶ TEMEL KAVRAM – 14

1. 3

6. $\frac{1}{6}$

11. $\frac{7}{9}$

16. $\frac{1}{7}$

21. $\frac{1}{3}$

2. $\frac{3}{7}$

7. $\frac{1}{5}$

12. $\frac{1}{3}$

17. $\frac{4}{17}$

22. -7

3. $\frac{17}{6}$

8. $\frac{3}{5}$

13. $\frac{\sqrt{2}}{2}$

18. 1

23. $-\frac{1}{5}$

4. $\frac{4}{17}$

9. $\frac{7}{9}$

14. $-\frac{4}{3}$

19. $\frac{7}{9}$

24. $\frac{2}{11}$

5. $\frac{4}{3}$

10. $-\frac{1}{7}$

15. $\frac{6}{7}$

20. $-\frac{\sqrt{5}}{5}$

▶ TEMEL KAVRAM – 15

1. $\frac{4\sqrt{3}}{7}$

8. $\frac{7}{8}$

15. $\frac{1}{2}$

22. $\frac{1}{4}$

29. 2

36. $\frac{2}{3}$

2. $\frac{24}{25}$

9. $\frac{8}{9}$

16. $\frac{1}{8}$

23. $\frac{1}{4}$

30. 2

3. $\frac{\sqrt{26}}{26}$

10. $\frac{2}{\sqrt{5}+1}$

17. $\frac{1}{4}$

24. $\frac{1}{8}$

31. 4

4. $\frac{4}{9}$

11. $\frac{4}{3}$

18. $\frac{\sqrt{3}}{16}$

25. $\frac{1}{32}$

32. 4

5. $\frac{3}{2}$

12. $-\frac{\sqrt{3}}{2}$

19. 16A

26. $\frac{24}{25}$

33. $4\sqrt{3}$

6. $\frac{1}{2}$

13. $4\sqrt{2}$

20. $\frac{\tan 80^\circ}{8}$

27. $\frac{5}{8}$

34. $\frac{\sqrt{5}}{2}$

7. $\sqrt{1-\frac{\sqrt{2}}{2}}$

14. $\frac{\sqrt{3}}{2}$

21. $\frac{a}{8}$

28. 2

35. $\frac{5\sqrt{11}}{18}$



TRİGONOMETRİ YANIT ANAHTARI

► TEMEL KAVRAM – 16

- | | | | | |
|--------------------------|-----------------------|----------------------------|---------------------------------|----------------------------|
| 1. $-\frac{3}{5}$ | 9. $\cos^2 a$ | 17. $-\sqrt{2}$ | 25. -1 | 33. $\frac{5}{8}$ |
| 2. $\frac{3}{5}$ | 10. $-2\sqrt{2}$ | 18. 4 | 26. $\frac{2-\sqrt{3}}{2}$ | 34. $\frac{1}{2}$ |
| 3. $\frac{7}{25}$ | 11. 1 | 19. $\frac{2}{\sqrt{5}+1}$ | 27. $\frac{1-\sin 40^\circ}{A}$ | 35. $\frac{1+\sqrt{5}}{4}$ |
| 4. $\frac{\sqrt{5}}{5}$ | 12. 2 | 20. $\sqrt{\frac{1-x}{2}}$ | 28. $-\frac{3}{25\sqrt{10}}$ | 36. $-\frac{3}{5}$ |
| 5. $-\frac{\sqrt{3}}{2}$ | 13. -1 | 21. $2-4a^2$ | 29. $2+\sqrt{2}$ | 37. 15° |
| 6. $-\frac{\sqrt{3}}{2}$ | 14. $\frac{1}{4}$ | 22. $\frac{2-k}{2}$ | 30. 3 | 38. $\frac{1}{4}$ |
| 7. 3 | 15. $4 \cos 20^\circ$ | 23. $-\frac{7}{9}$ | 31. -1 | |
| 8. $\cot a$ | 16. $-\frac{1}{4}$ | 24. $\frac{\sqrt{3}+1}{2}$ | 32. $\frac{5\sqrt{2}}{8}$ | |

► TEMEL KAVRAM – 17

- | | | | |
|--------------------------|--------------------------|-------------------|------------------|
| 1. $-\frac{\sqrt{5}}{2}$ | 3. $\frac{1}{5}$ | 5. 2 | 7. $\frac{4}{3}$ |
| 2. $\frac{4\sqrt{2}}{7}$ | 4. $\frac{7\sqrt{5}}{5}$ | 6. $\frac{24}{7}$ | |

► TEMEL KAVRAM – 18

- | | | | | |
|--|------------------|---------------------------|---------------------------|---------------------------|
| 1. 2 | 5. 2 | 9. 1 | 13. $\frac{4\sqrt{5}}{9}$ | 17. $\frac{7}{5\sqrt{2}}$ |
| 2. $\frac{1}{4} \arcsin\left(\frac{x+1}{2}\right)$ | 6. 30° | 10. $-\frac{\sqrt{3}}{2}$ | 14. $\frac{3}{5}$ | 18. 8 |
| 3. $-6+3\sin x$ | 7. 3 | 11. $-\sqrt{3}$ | 15. $\frac{1}{2}$ | 19. $\frac{5}{3\sqrt{3}}$ |
| 4. 3 | 8. $\frac{1}{2}$ | 12. $\frac{\sqrt{21}}{2}$ | 16. $-\frac{4}{3}$ | 20. $\frac{24}{7}$ |



TRİGONOMETRİ YANIT ANAHTARI

TEMEL KAVRAM – 18

- | | | | | | |
|----------------------------|--------------------|--------------------------|--------------------------|---------------------------|--------------------|
| 2. $2\arccos\frac{x-1}{3}$ | 4. 1 | 6. $\frac{2}{\sqrt{5}}$ | 8. $\frac{1}{2}$ | 10. $-\frac{3}{4}$ | 12. $-\frac{4}{3}$ |
| 3. $\frac{4\cos x - 5}{2}$ | 5. $\frac{\pi}{6}$ | 7. $-\frac{\sqrt{3}}{3}$ | 9. $\frac{3}{2\sqrt{2}}$ | 11. $\frac{1}{\sqrt{13}}$ | |

TEMEL KAVRAM – 18

- | | | | | |
|-------------------------|---------------------------|-----------------------------|--------------------|--------------------|
| 1. $\frac{4}{5}$ | 4. $\frac{14}{5}$ | 7. $-\frac{3}{5}$ | 9. $3\tan(x+2)$ | 11. -1 |
| 2. $\frac{1}{\sqrt{5}}$ | 5. $2\sqrt{3}$ | 8. $-\frac{3\sqrt{10}}{10}$ | 10. $-\frac{3}{4}$ | 12. $\frac{7}{25}$ |
| 3. $\frac{2}{\sqrt{3}}$ | 6. $-\frac{2\sqrt{5}}{5}$ | | | |

TEMEL KAVRAM – 19

- | | | | | |
|------|------|---------------|---------------|------|
| 1. 6 | 2. 1 | 3. 60° | 4. 30° | 5. 4 |
|------|------|---------------|---------------|------|

TEMEL KAVRAM – 20

- | | | | |
|---------------|------|------|------|
| 1. 30° | 2. 6 | 3. 4 | 4. 4 |
|---------------|------|------|------|

TEMEL KAVRAM – 21

- | | | | |
|--|---------------------|------|------|
| 1. $\left\{\frac{160}{3}, \frac{520}{3}\right\}$ | 3. $\{7, 5^\circ\}$ | 5. 6 | 7. 8 |
| 2. $\{30^\circ, 90^\circ, 150^\circ\}$ | 4. 4 | 6. 3 | 8. 1 |

TEMEL KAVRAM – 22

- | | | | |
|------|------|-------------------------|------|
| 1. 1 | 3. 3 | 5. 5 | 7. 2 |
| 2. 1 | 4. 5 | 6. $\frac{\sqrt{2}}{2}$ | 8. 3 |

TEMEL KAVRAM – 23

- Uygulama a. 6 b. 135° c. 11
Uygulama a. 5 b. $\{135^\circ, 180^\circ, 225^\circ, 270^\circ, 315^\circ\}$ c. 15°

TEMEL KAVRAM – 24

- | | | | |
|-----------|--------------------|---------------------------------|--|
| 1. 3π | 3. $\frac{\pi}{2}$ | 5. $\{0, 60^\circ, 360^\circ\}$ | 7. 4 |
| 2. 4 | 4. 2 | 6. 7 | 8. $\{45^\circ, 135^\circ, 225^\circ, 315^\circ\}$ |



LOGARİTMA YANIT ANAHTARI

▶ TEMEL KAVRAM – 1

1. 2

2. 6

3. 2

4. 12

▶ TEMEL KAVRAM – 2

1. 2

3. 30

5. $1-e$

2. 18

4. 10^6

▶ TEMEL KAVRAM – 3

1. $(2, \infty)$

3. 3

5. 3

7. 4

2. $(3, \infty) \setminus \{4\}$

4. 1

6. 10

8. 4

▶ TEMEL KAVRAM – 4

1. $\log 5x$

3. $\frac{3^x - 1}{3}$

5. e

7. $\ln(\sqrt{x+4} - 2)$

2. $\frac{1}{2} \ln(1-x)$

4. $\frac{e^{x-1} + 1}{2}$

6. $\log_2\left(\frac{x}{1-x}\right)$

8. $10^{\log_3\left(\frac{x}{3}\right)}$

▶ TEMEL KAVRAM – 5

1. 10^8

3. 15

5. 2

7. -7

2. 30°

4. 2

6. 4

8. $a+b$

▶ TEMEL KAVRAM – 6

1. $\frac{1}{2}$

3. 16

5. 4

7. $\frac{17}{8}$

9. 27

2. $\frac{5}{2}$

4. $\frac{15}{4}$

6. 3

8. -1



LOGARİTMA YANIT ANAHTARI

TEMEL KAVRAM – 7

1. 3

3. $3a+2b$

5. $-\frac{5}{2}$

7. $\frac{b}{b-1}$

2. 6

4. $3+m$

6. $\frac{2\sqrt{3}}{3}$

TEMEL KAVRAM – 8

1. 1

3. $\frac{a+1}{a}$

5. 4

7. 2

2. 6

4. $\frac{25}{4}$

6. 1000

8. 22

TEMEL KAVRAM – 9

1. $2-2a$

3. $\frac{1}{2-2m}$

5. $2-2x+y$

7. $\frac{2a-1}{a^2}$

2. $3-3x$

4. $\frac{3-2x}{2-2x}$

6. $\frac{1}{2x-2}$

8. $\frac{1}{2-A}$

TEMEL KAVRAM – 10

1. 7

3. 9

5. $\frac{1+2a}{1+a}$

7. $\log_3 2-1$

2. $\frac{1+2y}{2}$

4. $\log_3 25$

6. $\frac{2a+b}{2b}$

8. $\frac{2x}{x+2}$

TEMEL KAVRAM – 11

1. 3

3. $\frac{1}{2}$

5. 9

7. $ab-1$

2. 3

4. 1

6. 10

8. 3

TEMEL KAVRAM – 12

1. 24

3. 25

5. $e+10$

7. 25

2. 4

4. 11

6. 9

8. e^8



LOGARİTMA YANIT ANAHTARI

▶ TEMEL KAVRAM – 13

- | | | | |
|------|--------|-------------|----------------|
| 1. 5 | 3. 9 | 5. 1 | 7. 27 |
| 2. 5 | 4. {2} | 6. $\ln 15$ | 8. \emptyset |

▶ TEMEL KAVRAM – 14

- | | | | |
|------------------|------|--------|---------------|
| 1. 1 | 3. 4 | 5. 6 | 7. 1 |
| 2. $\frac{5}{2}$ | 4. e | 6. 110 | 8. $\log_2 6$ |

▶ TEMEL KAVRAM – 15

- | | | | |
|------------------|----------|------------------|------------------|
| 1. $(9, \infty)$ | 3. 6 | 5. $(6, \infty)$ | 7. $[8, \infty)$ |
| 2. 4 | 4. (2,9) | 6. 5 | 8. $[-3, 4]$ |

▶ TEMEL KAVRAM – 16

- | | | |
|------|-------|------|
| 1. 8 | 2. 10 | 3. 4 |
|------|-------|------|

▶ TEMEL KAVRAM – 17

- | | | | |
|-------|--|--|-------------------------|
| 1. 2 | 3. 17 | 5. 4 | 7. $\frac{100}{2^{10}}$ |
| 2. 18 | 4. $20000 \cdot \left(1 + \frac{10}{100}\right)^3$ | 6. $15 \cdot 10^6 \left(1 + \frac{2}{100}\right)^{10}$ | 8. 6,25 |



DİZİLER YANIT ANAHTARI

TEMEL KAVRAM – 1

1. 4 2. 19 3. 80 4. 88 5. 38

TEMEL KAVRAM – 2

1. 6 3. 13 5. 24 7. 13 9. 8

2. 3 4. 6 6. 5 8. 8 10. 3

TEMEL KAVRAM – 3

1. 7 3. 81 5. 9 7. 9 9. 2

2. 20 4. 29 6. 1 8. 4 10. 12

TEMEL KAVRAM – 4

1. -3 3. $-\frac{2}{7}$ 5. -25 7. -5

2. -10 4. $\frac{1}{2}$ 6. 36 8. 30

TEMEL KAVRAM – 5

1. 257 2. 9 3. 15 4. $\frac{6}{7}$ 5. 60

TEMEL KAVRAM – 6

1. 7 3. 4 5. 2 7. 9

2. 17 4. 2 6. 12 8. 2

TEMEL KAVRAM – 7

1. 24 3. 1 5. 36 7. 1

2. 12 4. 111 6. 1 8. 195



DİZİLER YANIT ANAHTARI

➤ TEMEL KAVRAM – 8

1. 8 2. $k_n = n(2n-1)$ 3. 21 4. 11

➤ TEMEL KAVRAM – 9

1. $3n-1$ 3. 16 5. 16 7. 185
2. 2 4. 38 6. 4 8. 10

➤ TEMEL KAVRAM – 10

1. 20 3. 18 5. 9 7. 11
2. 3 4. 3 6. 4 8. 7

➤ TEMEL KAVRAM – 11

1. 100 3. 15 5. 6 7. 318
2. 4 4. 8 6. -1 8. $4n+1$

➤ TEMEL KAVRAM – 12

1. 54 3. 8 5. $\{-1,3\}$ 7. 3
2. 6 4. $\frac{\sqrt{6}}{2}$ 6. 9

➤ TEMEL KAVRAM – 13

1. 6 3. 6 5. 12 7. 15
2. 5 4. 1 6. 2 8. 9

➤ TEMEL KAVRAM – 14

1. 3^{12} 3. 5. $\frac{4}{3}$ 7. 6
2. 48 4. $3(2^{10}-1)$ 6. 2 8. 5