



# LİMİT YANIT ANAHTARI

## ▶ TEMEL KAVRAM – 1

---

1. 2

## ▶ TEMEL KAVRAM – 2

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1. -6

## ▶ TEMEL KAVRAM – 3

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1. 2

3. 3

5. 3

2. {1,2}

4. -2

6. 5

## ▶ TEMEL KAVRAM – 4

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1. -1

3. 27

5. 6

7. 9

2. 5

4. 24

6. -6

## ▶ TEMEL KAVRAM – 5

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1. 8

3. 6

5. 12

2. 11

4. 3

6. 2

## ▶ TEMEL KAVRAM – 6

---

1. 2

3. 2

2. 6

4. 3

## ▶ TEMEL KAVRAM – 7

---

1. 2

3. 4

5. 2

2. 3

4. 3



# LİMİT YANIT ANAHTARI

## TEMEL KAVRAM – 8

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1. -2                      3. 2                      5.  $4\sqrt{2}$   
2. a) Yoktur b) 0 c) 2    4. 6

## TEMEL KAVRAM – 9

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1. 2                      3. 10                      5. 5  
2. 6                      4. -5                      6. a) 0 b) 1 c) Yoktur d) 4 e) 4 f) 4

## TEMEL KAVRAM – 10

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1. 4                      3. -3                      5. 2                      7. 0  
2.  $\frac{1}{2}$                       4.  $-\frac{1}{2}$                       6. 3c

## TEMEL KAVRAM – 11

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1. -2                      3. Yoktur                      5. -2                      7. 8                      9. 0  
2. -3                      4. 2                      6. -2                      8. -5

## TEMEL KAVRAM – 12

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1. 48                      3. -6                      5. 0                      7. 1  
2. 3                      4.  $\frac{1}{18}$                       6. 5                      8. 0

## TEMEL KAVRAM – 13

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



# LİMİT YANIT ANAHTARI

## ► TEMEL KAVRAM – 14

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1. 4

3. 12

5. 2

7. -3

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

4.  $\frac{6}{5}$

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

8. -55

## ► TEMEL KAVRAM – 15

---

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

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

5. 4

7. 48

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

4. 12

6. 3

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

## ► TEMEL KAVRAM – 17

---

1. -5

3. 8

5. 9

7. 5

2. -4

4. -6

6. -4

## ► TEMEL KAVRAM – 18

---

1. 3

3. 2

5. 1

2. -12

4. -2

6. 6

## ► TEMEL KAVRAM – 19

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1. 7

3. 5

5. 2

2. 2

4. 5



# TÜREV YANIT ANAHTARI

## TEMEL KAVRAM – 1

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1. 6                      3. 62

2. 6                      4.  $\frac{7}{3}$

## TEMEL KAVRAM – 2

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

2. 3                      4. 6

## TEMEL KAVRAM – 3

---

1. 6                      3. 3                      5. 12                      7. 8

2. 3                      4. 8                      6. -18                      8. 8

## TEMEL KAVRAM – 4

---

1. 3                      3. 5                      5. 15                      7. 2

2. 8                      4. 4                      6. 12

## TEMEL KAVRAM – 5

---

1. 2                      3. -1                      5.  $\frac{3}{2}$                       7. 11

2. 5                      4. 18                      6.  $\frac{3}{2}$

## TEMEL KAVRAM – 6

---

1. 54                      3. 3                      5. -1                      7. 4

2. 25                      4. 7                      6. 6



# TÜREV YANIT ANAHTARI

## TEMEL KAVRAM – 7

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1.  $f'(1) = \text{Yoktur}$   $f'(2) = \text{Yoktur}$       3. 37      5. 18  
2. 4      4. 2

## TEMEL KAVRAM – 8

---

1. 8      3. 5      5. 3  
2.  $\mathbb{R} \setminus \{0, 1\}$       4. 1      6. 1

## TEMEL KAVRAM – 9

---

1. 52      3. 6  
2.  $\mathbb{R} \setminus \{-1\}$       4. 5

## TEMEL KAVRAM – 10

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1. 9      3. Yalnız I      5. 4  
2. 2      4. 3

## TEMEL KAVRAM – 11

---

1. 3      3. 24      5. 36      7. 72      9. -55  
2. 12      4. 61      6.  $2^4 \cdot 3^8$       8. 128

## TEMEL KAVRAM – 12

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1. 16      3. 10      5. 29      7. 24  
2. 3      4. 7      6. 960      8. -1



# TÜREV YANIT ANAHTARI

## TEMEL KAVRAM – 13

---

1. -21

3. 3

5. 3

7. 28

2. 3

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

6. 1

## TEMEL KAVRAM – 14

---

1. 35

3. 9

5. 10

7. 16

2. 1

4. 3

6. 15

## TEMEL KAVRAM – 15

---

1. 1

3. Yoktur

5. -8

7. 3

2. 16

4. -8

6. 6

8. 18

## TEMEL KAVRAM – 16

---

1. 3

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

5. 6

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

2. 4

4. 125

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

## TEMEL KAVRAM – 17

---

1. 10

3. 2

5. 1

7. 24

2. 12

4. 6

6. 36

8. 1

## TEMEL KAVRAM – 18

---

1.  $6(x^3+1) \cdot x^2$

3. 60

5. 144

7. 0

2. 18

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

6.  $24(x-1)^2$

8. -8



# TÜREV-II YANIT ANAHTARI

## TEMEL KAVRAM – 1

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

## TEMEL KAVRAM – 2

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- |        |         |       |                   |
|--------|---------|-------|-------------------|
| 1. -90 | 3. 3    | 5. -2 | 7. -3             |
| 2. 9   | 4. 13,5 | 6. 1  | 8. $\frac{13}{4}$ |

## TEMEL KAVRAM – 3

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- |      |        |       |       |       |
|------|--------|-------|-------|-------|
| 1. 5 | 3. -16 | 5. 9  | 7. 13 | 9. 95 |
| 2. 7 | 4. 4   | 6. -6 | 8. 1  |       |

## TEMEL KAVRAM – 4

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- |                  |               |                  |
|------------------|---------------|------------------|
| 1. 12            | 3. 9          | 5. $\frac{1}{2}$ |
| 2. $\frac{1}{2}$ | 4. $\sqrt{3}$ |                  |

## TEMEL KAVRAM – 5

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- |                   |                  |                   |
|-------------------|------------------|-------------------|
| 1. 0              | 3. -12           | 5. $\frac{1}{4}$  |
| 2. $\frac{36}{5}$ | 4. $\frac{1}{3}$ | 6. $\frac{17}{4}$ |

## TEMEL KAVRAM – 6

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- |       |                  |
|-------|------------------|
| 1. 4  | 3. $\sqrt{17}$   |
| 2. -3 | 4. $\frac{3}{2}$ |



## TÜREV-II YANIT ANAHTARI

### ► TEMEL KAVRAM – 7

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- |       |      |
|-------|------|
| 1. -4 | 3. 8 |
| 2. 4  | 4. 0 |

### ► TEMEL KAVRAM – 8

---

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

### ► TEMEL KAVRAM – 9

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- |      |       |               |
|------|-------|---------------|
| 1. 2 | 3. -3 | 5. 15 · {0,5} |
| 2. 8 | 4. 7  | 6. 1          |

### ► TEMEL KAVRAM – 10

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

### ► TEMEL KAVRAM – 11

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- |             |                   |       |      |       |
|-------------|-------------------|-------|------|-------|
| 1. {5, -27} | 3. 2              | 5. 9  | 7. 1 | 9. 4  |
| 2. 4        | 4. $-\frac{1}{6}$ | 6. -3 | 8. 7 | 10. 7 |

### ► TEMEL KAVRAM – 12

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- |  |  |
|--|--|
| 1. · $(-\infty, 1) \cup [4, 7] \cup [9, \infty]$<br>· [1, 4] $\cup$ [7, 9]<br>· {4, 9}<br>· {1, 7}<br>· $(-\infty, 0) \cup (1, 3) \cup (4, 5) \cup (7, 9)$ | 2. · [0, 3] $\cup$ [5, $\infty$ )<br>· $(-\infty, 0] \cup [3, 5]$<br>· {0, 5}<br>· {3} |
|--|--|





## TÜREV-II YANIT ANAHTARI

### TEMEL KAVRAM – 14

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1.  $h_3$                       2.  $h_3$                       3.  $\cdot D \cdot A \cdot B$  ve C

### TEMEL KAVRAM – 15

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1. a) 8 b) 3 c) 6              3. 4                      5. 4                      7. 70  
2. a) -18 b) 5              4. 5                      6. 44

### TEMEL KAVRAM – 16

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1. 800                      3. 270                      5. 3  
2. 900                      4. 900                      6.  $\frac{8}{4+\pi}$

### TEMEL KAVRAM – 17

---

1. 16                      3. 3                      5.  $3\sqrt{3}$   
2. 16                      4. 18                      6. 4

### TEMEL KAVRAM – 18

---

1.  $5\sqrt{5}$                       3. 27                      5. 8  
2. 432                      4. 32                      6.  $\frac{128}{9}$

### TEMEL KAVRAM – 19

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1. 500                      3.  $16\sqrt{3}\pi$                       5. 6  
2.  $8\pi$                       4. 18                      6. 12

### TEMEL KAVRAM – 20

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1. 5                      3. -2                      5.  $\frac{25}{7}$   
2. 4                      4. 5                      6.  $5\sqrt{2}$

### TEMEL KAVRAM – 21

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7.  $\frac{1}{2}$                       8. 32                      9. 16                      10. 32



# İNTEGRAL YANIT ANAHTARI

## ▶ TEMEL KAVRAM – 1

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1. -12                      3.  $\frac{5}{21}$   
2. 12                        4. 3

## ▶ TEMEL KAVRAM – 2

---

1. 5                         3. -23  
2. -1

## ▶ TEMEL KAVRAM – 3

---

1. -2                      3. 10                      5.  $\frac{1}{3}$                       7. 2  
2. 33                      4. 1                        6. 1                        8.  $\frac{91}{64}$

## ▶ TEMEL KAVRAM – 4

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1. 3                        3. 1                        5.  $\ln 16$                       7. 6  
2. 13                      4. 8                        6. -1                        8. -2

## ▶ TEMEL KAVRAM – 5

---

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

## ▶ TEMEL KAVRAM – 6

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1. 9                        3. 27                      5. (0, 3)                      7.  $-\frac{1}{2}$   
2. 6                        4. 8                        6. -1



# İNTEGRAL YANIT ANAHTARI

## TEMEL KAVRAM – 7

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- |                            |                             |                                     |       |
|----------------------------|-----------------------------|-------------------------------------|-------|
| 1. $\frac{2}{3}(2x-3)^3+c$ | 3. 1                        | 5. $-\frac{1}{4(x^2+4x)}+c$         | 7. 15 |
| 2. $(1+x^2)^4+c$           | 4. $\frac{(x^2-2x)^3}{2}+c$ | 6. $\left(1-\frac{1}{x}\right)^4+c$ | 8. 1  |

## TEMEL KAVRAM – 8

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- |                                |                                 |                                  |                  |
|--------------------------------|---------------------------------|----------------------------------|------------------|
| 1. $\frac{4}{3}(3x-2)^{3/2}+c$ | 3. $\frac{3}{16}(4x+1)^{4/3}+c$ | 5. 13                            | 7. $\frac{4}{3}$ |
| 2. $\frac{(x^2-1)^{3/2}}{3}+c$ | 4. 0                            | 6. $\frac{3}{4}(x^2-2x)^{2/3}+c$ | 8. 3             |

## TEMEL KAVRAM – 9

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- |      |               |      |       |
|------|---------------|------|-------|
| 1. 2 | 3. 100        | 5. 3 | 7. 18 |
| 2. 0 | 4. $\sqrt{2}$ | 6. 5 |       |

## TEMEL KAVRAM – 10

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- |          |               |      |  |
|----------|---------------|------|--|
| 1. $\pi$ | 3. $\sqrt{6}$ | 5. 9 |  |
| 2. -4    | 4. 3          | 6. 1 |  |

## TEMEL KAVRAM – 11

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- |      |      |       |      |
|------|------|-------|------|
| 1. 9 | 3. 1 | 5. 10 | 7. 5 |
| 2. 6 | 4. 5 | 6. 3  | 8. 1 |

## TEMEL KAVRAM – 12

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- |      |       |                   |      |
|------|-------|-------------------|------|
| 1. 5 | 3. 2  | 5. $-\frac{1}{4}$ | 7. 2 |
| 2. 2 | 4. -3 | 6. 15             | 8. 6 |



# İNTEGRAL YANIT ANAHTARI

## TEMEL KAVRAM – 13

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1.  $6\pi$

3. 3

5.  $6^3+8^3$

7. 18

2.  $\frac{\pi}{2}$

4. 16

6. -6

8.  $\pm\frac{1}{\sqrt{3}}$

## TEMEL KAVRAM – 14

---

1. 24

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

5. 4

2. 3

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

## TEMEL KAVRAM – 15

---

1. 32

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

5. -9

7. 13

2. 12

4. 3

6. 48

8. 3

## TEMEL KAVRAM – 16

---

1. 3

3. 14

5. 24

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

2.

4. -1

6. 2

8. -10

## TEMEL KAVRAM – 17

---

1. 10

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

## TEMEL KAVRAM – 18

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1.  $\int_2^4 \frac{6}{x} dx - 2$

2. 64

3. 18



# İNTEGRAL YANIT ANAHTARI

## TEMEL KAVRAM – 19

$$\begin{array}{llll} 1. \int_0^{\frac{\pi}{4}} (\cos x - \sin x) dx & 3. \int_0^4 (-x+4) - (-\sqrt{x}) dx & 5. \int_0^4 \left( x^3 - \frac{(x-4)}{2} \right) dx & 7. \int_0^2 ((-x+6) - (x^2)) dx \\ 2. \int_0^3 (9-x^2) - (-3x+9) dx & 4. \int_e^{e^3} (\ln x - 1) dx & 6. \int_1^4 \left( \sqrt{x} - \left( \frac{1}{x} \right) \right) dx & 8. \int_0^2 \left( \frac{6-x}{2} \right) dx + \int_1^{e^2} \left( \frac{6-x}{2} - \ln x \right) dx \end{array}$$

## TEMEL KAVRAM – 20

$$\begin{array}{lll} 1. \frac{13}{6} & 3. \frac{5}{2} & 5. 4 \\ 2. \frac{9}{2} & 4. \sqrt[3]{12} & 6. \frac{64}{3} \end{array}$$

## TEMEL KAVRAM – 21

$$\begin{array}{lll} 1. \frac{14}{3} & 3. 4 & 5. \frac{27}{8} \\ 2. 58 & 4. \frac{3}{5} & 6. \frac{2}{3} \end{array}$$

## TEMEL KAVRAM – 22

$$\begin{array}{lll} 1. \int_0^{\ln 2} (4e^{-x} - e^x) dx & 3. \frac{47}{12} & 5. 20 \\ 2. \frac{2}{3} & 4. \frac{52}{3} & 6. 72 \end{array}$$

## TEMEL KAVRAM – 23

$$\begin{array}{lll} 1. 12 & 3. 4 & 5. 10 \\ 2. 3 & 4. 6 & 6. 32 \end{array}$$

## TEMEL KAVRAM – 24

$$\begin{array}{lll} 1. 2 & 3. 9 & 5. 5 \\ 2. 56 & 4. 11 & \end{array}$$



## İNTEGRAL YANIT ANAHTARI

### TEMEL KAVRAM – 25

Uygulama

$$1. \int_{-5}^5 \sqrt{25-x^2} dx$$

$$3. \int_{-3}^3 \sqrt{9-y^2} dy$$

$$5. \int_{-2}^{\sqrt{3}} \sqrt{4-x^2} dy$$

$$7. \int_{-1}^{\sqrt{2}} \sqrt{2-x^2} dx$$

$$8. \int_{-1}^1 \sqrt{4-x^2} dx$$

### TEMEL KAVRAM – 26

$$1. \int_0^{\sqrt{2}} (\sqrt{4-x^2-x}) dx$$

$$4. \int_0^2 (-\sqrt{3}x - (-\sqrt{16-x^2})) dx$$

$$7. \int_{-4}^0 \left( \left( -\frac{1}{2}x - 2 \right) - (-\sqrt{16-x^2}) \right) dx$$

$$2. \int_0^{3\sqrt{2}} ((-y) - \sqrt{-36-y^2}) dy$$

$$5. \int_0^3 (\sqrt{9-x^2} - (-x+3)) dx$$

$$8. \int_{-1}^0 ((x+1) - (-x-1)) dx + 2 \int_0^1 \sqrt{1-x^2} dx$$

$$3. \int_{-\sqrt{3}}^0 \left( \frac{x}{\sqrt{3}} - (-\sqrt{4-x^2}) \right) dx$$

$$6. \int_0^2 \left( \sqrt{4-y^2} - \left( \frac{2-y}{2} \right) \right) dy$$

$$9. \int_{-\sqrt{8}}^0 \sqrt{8-x^2} dx + \int_0^{\sqrt{2}} (\sqrt{8-x^2} - \sqrt{3}x) dx$$

### TEMEL KAVRAM – 27

$$1. \pi$$

$$3. 6+3\pi$$

$$5. \pi$$

$$7. \pi-2$$

$$2. 8\pi$$

$$4. 6\sqrt{3}+4\pi$$

$$6. 3\pi$$

$$8. 3\pi-12$$

### TEMEL KAVRAM – 28

$$1. -\frac{8}{3}$$

$$2. 4$$

$$3. 4$$

$$4. 18$$