KÖKLÜ SAYILAR

ÇÖZÜM 1

1. $\sqrt{3+\frac{1}{16}}+\sqrt{5+\frac{1}{16}}+\sqrt{(-2)^4}$

$=\sqrt{\frac{49}{16}}+\sqrt{\frac{81}{16}}+\sqrt{16}$

$=\frac{7}{4}+\frac{9}{4}+4$

$=\frac{16}{4}+4$

$=4+4$

$=8$

Cevap: A

2. $\sqrt{(-8)^2}+\sqrt[3]{-8}-\sqrt[5]{-32}$

$=\sqrt{64}+\sqrt[3]{(-2)^3}-\sqrt[5]{(-2)^5}$

$=8-2+2$

$=8$

Cevap: E

3. $\frac{\sqrt[3]{-1}-\sqrt[3]{(-1)^2}}{\sqrt[6]{(-1)^2}+\sqrt[4]{(-1)^2}}=\frac{-1-\sqrt[3]{1}}{\sqrt[6]{1}+\sqrt[4]{1}}=\frac{-1-1}{1+1}$

$=-\frac{2}{2}=-1$

Cevap: C

4. $\frac{\sqrt{72}+\sqrt{18}}{\sqrt{98}+\sqrt{8}}=\frac{\sqrt{2}(\sqrt{36}+\sqrt{9})}{\sqrt{2}(\sqrt{49}+\sqrt{4})}=\frac{6+3}{7+2}=1$

Cevap: D

5. $\sqrt[3]{\left(-\frac{1}{4}\right)^3}-\sqrt{\left(-\frac{1}{4}\right)^2}$

$=-\frac{1}{4}-\left|-\frac{1}{4}\right|$

$=-\frac{1}{4}-\frac{1}{4}$

$=-\frac{2}{4}$

$=-\frac{1}{2}$

Cevap: D

6. $\sqrt[5]{1-\sqrt[3]{8}}+\sqrt{2+\sqrt[3]{8}}$

$=\sqrt[5]{1-2}+\sqrt{2+2}$

$=\sqrt[5]{-1}+\sqrt{4}$

$=-1+2$

$=1$

Cevap: C

7. $\sqrt{\sqrt{81}}+\sqrt{\sqrt[3]{64}}$

$=\sqrt{9}+\sqrt{4}$

$=3+2$

$=5$

Cevap: D

8. $\frac{\sqrt[3]{16}-\sqrt[3]{54}}{\sqrt{18}}:\frac{\sqrt[3]{2}}{\sqrt{8}}$

$\frac{2\sqrt[3]{2}-3\sqrt[3]{2}}{3\sqrt{2}}:\frac{\sqrt[3]{2}}{2\sqrt{2}}$

$\frac{-\cancel{\sqrt[3]{2}}}{3\sqrt{2}}\cdot\frac{2\sqrt{2}}{\cancel{\sqrt[3]{2}}}=-\frac{2}{3}$

Cevap: C

9. $\left(\sqrt{2}+\frac{1}{\sqrt{2}}\right)\left(\sqrt{3}+\frac{1}{\sqrt{3}}\right)$

$= \frac{2+1}{\sqrt{2}} \cdot \frac{3+1}{\sqrt{3}}$

$= \frac{3}{\sqrt{2}} \cdot \frac{4}{\sqrt{3}}$

$= \frac{12}{\sqrt{6}} = \frac{12\sqrt{6}}{6} = 2\sqrt{6}$
$(\sqrt{6})$

Cevap: A

10. $\sqrt{480} = \sqrt{16.30} = 4\sqrt{30}$

O halde ifadenin yaklaşık değerini bulabilmek için $\sqrt{30}$'un değerini bilmeliyiz.

Cevap: E

11. $\sqrt{18} = \sqrt{3}.\sqrt{3}.\sqrt{2} = b.b.a = a.b^2$

Cevap: C

12. $\frac{\sqrt{4,9}+\sqrt{2,5}}{\sqrt{0,4}} + \frac{\sqrt{0,81}+\sqrt{0,49}}{\sqrt{0,64}}$

$= \frac{\sqrt{49}+\sqrt{25}}{\sqrt{4}} + \frac{\sqrt{81}+\sqrt{49}}{\sqrt{64}}$

$= \frac{7+5}{2} + \frac{9+7}{8}$

$= \frac{12}{2} + \frac{16}{8}$

$= 6 + 2$

$= 8$ olur.

Cevap: C

13. $\sqrt{a^2}+\sqrt{b^2}-\sqrt{(a-b)^2}+\sqrt{(b-a)^2}$

$= \underset{-}{|a|} + \underset{+}{|b|} - \underbrace{|a-b|}_{-} - \underbrace{|b-a|}_{+}$

$= -a + b + a - b - b + a$

$= a - b$

Cevap: A

14. $\frac{\sqrt[3]{2}.\sqrt{3}}{\sqrt[6]{4}} = \frac{\sqrt[3.2]{2^2.3^3}}{\sqrt[6]{4}}$

$= \frac{\sqrt[6]{4.27}}{\sqrt[6]{4}} = \sqrt[6]{\frac{4.27}{4}} = \sqrt[6]{27}$

$= \sqrt[6]{3^3}$

$= \sqrt{3}$

Cevap: D