

$$1. \frac{\sqrt{25.5} \cdot \sqrt{16.5}}{\sqrt{16.2} \cdot \sqrt{25.2}} = \frac{5\sqrt{5} \cdot 4\sqrt{5}}{4\sqrt{2} \cdot 5\sqrt{2}}$$

$$= \frac{20 \cdot 5}{20 \cdot 2} = \frac{5}{2}$$

Cevap: A

$$2. \frac{\sqrt{\frac{32}{100}} + \sqrt{\frac{128}{100}}}{\sqrt{\frac{72}{10}} - \sqrt{\frac{18}{10}}}$$

$$= \frac{\sqrt{\frac{16 \cdot 2}{100}} + \sqrt{\frac{64 \cdot 2}{100}}}{\sqrt{\frac{36 \cdot 2}{10}} - \sqrt{\frac{9 \cdot 2}{10}}} = \frac{\frac{4\sqrt{2}}{10} + \frac{8\sqrt{2}}{10}}{\frac{6\sqrt{2}}{\sqrt{10}} - \frac{3\sqrt{2}}{\sqrt{10}}}$$

$$= \frac{\frac{12\sqrt{2}}{10}}{\frac{3\sqrt{2}}{\sqrt{10}}} = \frac{12\sqrt{2}}{10} \cdot \frac{\sqrt{10}}{3\sqrt{2}} = \frac{4\sqrt{10}}{10}$$

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

Cevap: B

$$3. \sqrt[4]{(\sqrt{82} - 1)(\sqrt{82} + 1)}$$

$$= \sqrt[4]{(\sqrt{82})^2 - 1^2}$$

$$= \sqrt[4]{82 - 1}$$

$$= \sqrt[4]{81} = \sqrt[4]{3^4}$$

$$= 3$$

Cevap: C

4. Roketin boyu x cm olsun.

O halde roket $12 < x < 13$ arasındadır.

$$144 < x^2 < 169$$

seçeneklerin karesini aldığımızda bu aralıkta olması gerekir.

A) $(5\sqrt{5})^2 = 25 \cdot 5 = 125$

B) $(4\sqrt{7})^2 = 16 \cdot 7 = 112$

C) $(7\sqrt{3})^2 = 49 \cdot 3 = 147$ olabilir.

D) $(6\sqrt{5})^2 = 36 \cdot 5 = 180$

E) $(5\sqrt{7})^2 = 25 \cdot 7 = 175$

Cevap: C

TASARI EĞİTİM YAYINLARI

$$5. \sqrt{(15 - \sqrt{29})(15 + \sqrt{29})}$$

$$= \sqrt{(15)^2 - (\sqrt{29})^2}$$

$$= \sqrt{225 - 29}$$

$$= \sqrt{196}$$

$$= 14$$

Cevap: D

$$6. \frac{2}{\sqrt{3} + 1} + \frac{1}{\sqrt{3} - 2}$$

$$= \frac{2(\sqrt{3} - 1)}{\underbrace{3 - 1}_2} + \frac{\sqrt{3} + 2}{\underbrace{3 - 4}_{-1}} = \sqrt{3} - 1 - \sqrt{3} - 2$$

$$= -3$$

Cevap: B

$$7. \frac{\sqrt{2} \cdot \sqrt{5}}{\sqrt{2}(1+\sqrt{3})} + \frac{\sqrt{2} \cdot \sqrt{5}}{\sqrt{2}(\sqrt{3}-1)}$$

$$= \frac{\sqrt{5}-\sqrt{15}}{-2} + \frac{\sqrt{15}+\sqrt{5}}{2}$$

$$= \frac{-\sqrt{5}+\sqrt{15}+\sqrt{15}+\sqrt{5}}{2} = \frac{2\sqrt{15}}{2}$$

$$= \sqrt{15}$$

Cevap: A

$$8. \sqrt{16.3} - \sqrt{49.3} + \frac{9}{\sqrt{3}}$$

$$= 4\sqrt{3} - 7\sqrt{3} + \frac{9\sqrt{3}}{3}$$

$$= 4\sqrt{3} - 7\sqrt{3} + 3\sqrt{3}$$

$$= 0$$

Cevap: A

$$9. \begin{aligned} \sqrt{12} &= \sqrt{4.3} = 2\sqrt{3} \\ \sqrt{32} &= \sqrt{16.2} = 4\sqrt{2} \\ \sqrt{5} & \\ \sqrt{50} &= \sqrt{25.2} = 5\sqrt{2} \\ \sqrt{45} &= \sqrt{9.5} = 3\sqrt{5} \\ \sqrt{48} &= \sqrt{16.3} = 4\sqrt{3} \end{aligned}$$

$$\sqrt{32} \times \sqrt{50} = 4\sqrt{2} \cdot 5\sqrt{2} = 40 = X$$

$$\sqrt{12} \times \sqrt{48} = 2\sqrt{3} \cdot 4\sqrt{3} = 24 = Y$$

$$\sqrt{5} \times \sqrt{45} = \sqrt{5} \cdot 3\sqrt{5} = 15 = Z \quad \text{alınırsa en büyük bulunur.}$$

$$X + Y - Z = 40 + 24 - 15$$

$$= 49 \text{ bulunur.}$$

Cevap: D

$$10. \frac{\frac{\sqrt{36.3}}{(\sqrt{3})} - \frac{3}{\sqrt{3}}}{\sqrt{9.3} + \frac{6}{\sqrt{3}}} = \frac{6\sqrt{3} - \frac{3\sqrt{3}}{3}}{3\sqrt{3} + \frac{6\sqrt{3}}{3}}$$

$$= \frac{6\sqrt{3} - \sqrt{3}}{3\sqrt{3} + 2\sqrt{3}} = \frac{5\sqrt{3}}{5\sqrt{3}} = 1$$

Cevap: A


$$11. \frac{\sqrt{16.3}}{\frac{1}{\sqrt{3}} + \frac{1}{\sqrt{9.3}}} = \frac{4\sqrt{3}}{\frac{1}{\sqrt{3}} + \frac{1}{3\sqrt{3}}} = \frac{4\sqrt{3}}{\frac{3+1}{3\sqrt{3}}}$$

$$= \frac{4\sqrt{3}}{\frac{4}{3\sqrt{3}}} = \sqrt{3} \cdot 3\sqrt{3} = 9 \text{ bulunur.}$$

Cevap: E

12. A) $\sqrt{48} = \sqrt{16.3} = 4\sqrt{3}$
 B) $\sqrt{50} = \sqrt{25.2} = 5\sqrt{2}$
 C) $\sqrt{80} = \sqrt{16.5} = 4\sqrt{5}$
 D) $\sqrt{108} = \sqrt{36.3} = 6\sqrt{3}$
 E) $\sqrt{125} = \sqrt{25.5} = 5\sqrt{5}$ (5 mavi, 5 kırmızı kare)

Cevap: E

13.  bir parselin bir kenarı x m olsun.

Bir parselin alanı $x \cdot x = x^2$
 $8 \cdot x^2 = 216 \Rightarrow x^2 = 27$
 $x = \sqrt{27}$

I. durum



Çevresi: $18\sqrt{27} = 54\sqrt{3}$
 $\begin{matrix} 9 & 3 \end{matrix}$

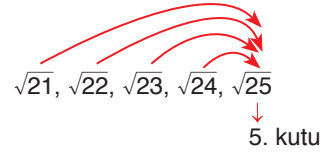
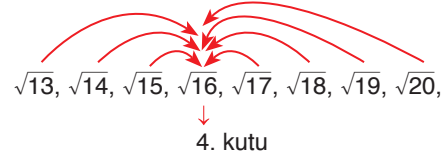
II. durum



Ç = $12\sqrt{27} = 36\sqrt{3}$ en az
 $\begin{matrix} 9 & 3 \end{matrix}$

Cevap: C

15. $\sqrt{1}, \sqrt{2}, \sqrt{3}, \sqrt{4}, \sqrt{5}, \sqrt{6}, \sqrt{7}, \sqrt{8}, \sqrt{9}, \sqrt{10}, \sqrt{11}, \sqrt{12}$
 1. kutu 2. kutu 3. kutu



Görüldüğü gibi 4. kutuya 13, 14, 15, 16, 17, 18, 19 ve 20 numaralı kartlar atılır. O da 8 adet

Cevap: D

14. $\frac{\sqrt{245}}{\frac{1}{\sqrt{5}} + \frac{\sqrt{20}}{4}} = \frac{\sqrt{49 \cdot 5}}{\frac{1}{\sqrt{5}} + \frac{\sqrt{4 \cdot 5}}{4}}$
 $= \frac{7\sqrt{5}}{\frac{1}{\sqrt{5}} + \frac{2\sqrt{5}}{4}} = \frac{7\sqrt{5}}{\frac{2\sqrt{5} + 5\sqrt{5}}{10}} = 7\sqrt{5} \cdot \frac{10}{7\sqrt{5}}$
 $= 10$ bulunur.

Cevap: E

16. $\frac{3 + \sqrt{2} + \sqrt{18}}{8 + \sqrt{18}} = \frac{3 + \sqrt{2} + \sqrt{9 \cdot 2}}{8 + \sqrt{9 \cdot 2}}$
 $= \frac{3 + \sqrt{2} + 3\sqrt{2}}{8 + 3\sqrt{2}}$
 $= \frac{3 + 4\sqrt{2}}{8 + 3\sqrt{2}} = \frac{(3 + 4\sqrt{2}) \cdot (8 - 3\sqrt{2})}{(8 + 3\sqrt{2})(8 - 3\sqrt{2})}$
 $= \frac{24 - 9\sqrt{2} + 32\sqrt{2} - 24}{64 - 18}$
 $= \frac{23\sqrt{2}}{46} = \frac{\sqrt{2}}{2}$

Cevap: B