1. $\dfrac{\sqrt{25.5}\,.\sqrt{16.5}}{\sqrt{16.2}\,.\sqrt{25.2}} = \dfrac{5\sqrt{5}\,.4\sqrt{5}}{4\sqrt{2}\,.5\sqrt{2}}$

$= \dfrac{\cancel{20}.5}{\cancel{20}.2} = \dfrac{5}{2}$

Cevap: A

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

$= \dfrac{\sqrt{\frac{16.2}{100}}+\sqrt{\frac{64.2}{100}}}{\sqrt{\frac{36.2}{10}}-\sqrt{\frac{9.2}{10}}} = \dfrac{\frac{4\sqrt{2}}{10}+\frac{8\sqrt{2}}{10}}{\frac{6\sqrt{2}}{\sqrt{10}}-\frac{3\sqrt{2}}{\sqrt{10}}}$

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

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

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) $(5\sqrt{5})^2 = 25.5 = 125$

B) $(4\sqrt{7})2 = 16.7 = 112$

C) $(7\sqrt{3})^2 = 49.3 = 147$ olabilir.

D) $(6\sqrt{5})^2 = 36.5 = 180$

E) $(5\sqrt{7})^2 = 25.7 = 175$

Cevap: C

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

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

$= \sqrt{225-29}$

$= \sqrt{196}$

$= 14$

Cevap: D

6. $\dfrac{2}{\underset{(\sqrt{3}-1)}{\sqrt{3}+1}} + \dfrac{1}{\underset{(\sqrt{3}+2)}{\sqrt{3}-2}}$

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

$= -3$

Cevap: B

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

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

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

$= \sqrt{15}$

Cevap: A

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

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

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

$= 0$

Cevap: A

9. $\sqrt{12} = \sqrt{4.3} = 2\sqrt{3}$

$\sqrt{32} = \sqrt{16.2} = 4\sqrt{2}$

$\sqrt{5}$

$\sqrt{50} = \sqrt{25.2} = 5\sqrt{2}$

$\sqrt{45} = \sqrt{9.5} = 3\sqrt{5}$

$\sqrt{48} = \sqrt{16.3} = 4\sqrt{3}$

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

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

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

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

$= 49$ bulunur.

Cevap: D

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

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

Cevap: A

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

$= \frac{4\sqrt{3}}{\frac{4}{3\sqrt{3}}} = \sqrt{3}.3\sqrt{3} = 9$ 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. x  x bir parselin bir kenarı x m olsun.

Bir parselin alanı $x.x = x^2$

$8.x^2 = 216 \Rightarrow x^2 = 27$

$x = \sqrt{27}$

I. durum

II. durum

Çevresi: $18\sqrt{27} = 54\sqrt{3}$ (9 3)

Ç = $12\sqrt{27} = 36\sqrt{3}$ en az (9 3)

Cevap: C

14. $$\frac{\sqrt{245}}{\frac{1}{\sqrt{5}}+\frac{\sqrt{20}}{4}} = \frac{\sqrt{49.5}}{\underset{(\sqrt{5})}{\frac{1}{\sqrt{5}}}+\frac{\sqrt{4.5}}{4}}$$

$$= \frac{7\sqrt{5}}{\underset{(2)}{\frac{\sqrt{5}}{5}}+\underset{(5)}{\frac{2\sqrt{5}}{4}}} = \frac{7\sqrt{5}}{\frac{2\sqrt{5}+5\sqrt{5}}{10}} = \cancel{7\sqrt{5}}\cdot\frac{10}{\cancel{7\sqrt{5}}}$$

= 10 bulunur.

Cevap: E

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

$\sqrt{13}, \sqrt{14}, \sqrt{15}, \sqrt{16}, \sqrt{17}, \sqrt{18}, \sqrt{19}, \sqrt{20},$

4. kutu

$\sqrt{21}, \sqrt{22}, \sqrt{23}, \sqrt{24}, \sqrt{25}$

5. kutu

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

Cevap: D

16. $$\frac{3+\sqrt{2}+\sqrt{18}}{8+\sqrt{18}} = \frac{3+\sqrt{2}+\sqrt{9.2}}{8+\sqrt{9.2}}$$

$$= \frac{3+\sqrt{2}+3\sqrt{2}}{8+3\sqrt{2}}$$

$$= \frac{3+4\sqrt{2}}{\underset{(8-3\sqrt{2})}{8+3\sqrt{2}}} = \frac{(3+4\sqrt{2}).(8-3\sqrt{2})}{(8)^2-(3\sqrt{2})^2}$$

$$= \frac{24-9\sqrt{2}+32\sqrt{2}-24}{64-18}$$

$$= \frac{23\sqrt{2}}{46} = \frac{\sqrt{2}}{2}$$

Cevap: B