1. $\sqrt{a+3}+4=A$

$x \quad \dfrac{\sqrt{a+3}-4}{a-13}=x$

$\dfrac{a+3-16}{a-13}=A.x$

$\dfrac{a-13}{a-13}=A.x \quad \Rightarrow \quad A.x=1$

$x=\dfrac{1}{A}$

Cevap: D

2. • $a^2+a=b^2+b$

$a^2-b^2=b-a$

$(a-b)(a+b)=b-a^{-1}$

$a+b=-1$

• $(a+b)^2=(-1)^2 \Rightarrow a^2+b^2+2ab=1 \quad (a.b=-2)$

$a^2+b^2-4=1$

$a^2+b^2=5$ olur.

Cevap: C

3. • $a-b=11$ her iki tarafın karesi alınırsa

$(a-b)^2=11^2$

$a^2+b^2-2ab=121 \quad (a^2+b^2=71)$

$71-2ab=121$

$-2ab=50$

$ab=-25$ olur.

Cevap: C

4. • a^2-b^2+2b-1

$=a^2-(b^2-2b+1)$

$=a^2-(b-1)^2$

$=(a-b+1)(a+b-1)$

$=(5{,}5-3{,}5+1)(5{,}5+3{,}5-1)$

$=3.8$

$=24$ olur.

Cevap: B

5. $2a-3b=3$ (her iki tarafın karesi alınırsa)

$(2a-3b)^2=3^2$

$4a^2-12ab+9b^2=9 \quad (a.b=1)$

$4a^2-12+9b^2=9$

$4a^2+9b^2=21$ olur.

Cevap: E

6. $\left(x-\dfrac{4}{x}\right)^2=3$

$x^2-2.\cancel{x}.\dfrac{4}{\cancel{x}}+\dfrac{16}{x^2}=9$

$x^2-8+\dfrac{16}{x^2}=9$

$x^2+\dfrac{16}{x^2}=17$

Cevap: C

7.

$+ \quad a^2-ab=12$

$\quad\; b^2-ab=4$

$a^2-2ab+b^2=16$

$(a-b)^2=16$

$a-b=\mp 4$

$- \quad a^2-ab=12$

$\quad\; b^2-ab=4$

$a^2-b^2=8$

$(a-b)(a+b)=8$

$\downarrow \quad \downarrow$

$\rightarrow \quad 4 \;.\; 2$

$\rightarrow \quad -4 \;.\; (-2)$

Cevap: B

8. • $a-b=16$

$(\sqrt{a}-\sqrt{b})(\sqrt{a}+\sqrt{b})=16$

$\downarrow$

8

$(\sqrt{a}-\sqrt{b}).8=16 \Rightarrow \sqrt{a}-\sqrt{b}=2$

• $\sqrt{a}+\sqrt{b}=8$

$+ \quad \sqrt{a}-\sqrt{b}=2$

$2\sqrt{a}=10$

$\sqrt{a}=5 \Rightarrow a=25$ olur.

Cevap: E

9. $\sqrt{\frac{9}{25}+\frac{25}{49}-\frac{6}{7}} = \sqrt{\left(\frac{5}{7}-\frac{3}{5}\right)^2}$

$= \frac{5}{7}-\frac{3}{5}$ $\quad (5)\ (7)$

$= \frac{25-21}{35} = \frac{4}{35}$

Cevap: E

10. • $\frac{x}{y}+\frac{y}{x}=2 \Rightarrow x^2+y^2xy=2 \Rightarrow x^2+y^2=2xy$

$x^2-2xy+y^2=0$

$(x-y)^2=0$

$x=y$

• $x-3y-1=0 \quad (x=y)$

$y-3y-1=0$

$-2y-1=0$

$y=\frac{-1}{2}$ olur.

Cevap: C

11.
$$\begin{array}{rl} & m-\sqrt{mn}=11 \\ + & n-\sqrt{mn}=5 \\ \hline & m-2\sqrt{mn}+n=16 \end{array}$$

$(\sqrt{m}-\sqrt{n})^2 = 16 \Rightarrow \sqrt{m}-\sqrt{n}=4$ olur.

Cevap: B

12. • $z(x+y)-x(x+y)=30$

$(x+y)\underbrace{(z-x)}_{5}=30 \Rightarrow x+y=6$

• $x.y+y^2=24$

$y\underbrace{(x+y)}_{6}=24 \Rightarrow y=4$

• $y=4$ ise $x+y=6 \Rightarrow x=2$

• $\underbrace{z-x}_{2}=5 \Rightarrow z=7$ olur.

Cevap: C

13. $\frac{m^2}{m^2-2m+1}.\frac{\frac{1}{m}-m}{m+m^2}$

$= \frac{m^2}{(m-1)^2}.\frac{\frac{1-m^2}{m}}{m(1+m)} = \frac{m^2}{(m-1)^2}.\frac{(1-m)(1+m)}{m^2.(1+m)}$

$= \frac{-(m-1)}{(m-1)^2} = \frac{-1}{m-1}$

Cevap: E

14. $\left(\frac{a}{a+b}-\frac{a-b}{a}\right):\left(\frac{a}{a-b}-\frac{a+b}{a}\right)$

$\frac{a^2-a^2+b^2}{a.(a+b)}:\frac{a^2-a^2+b^2}{a(a-b)}$

$\frac{b^2}{a.(a+b)}:\frac{b^2}{a.(a-b)} = \frac{b^2}{a.(a+b)}.\frac{a.(a-b)}{b^2} = \frac{a-b}{a+b}$

Cevap: A