1. $7 - x = 12$

$\quad -x = 12 - 7$

$\quad -x = 5$

$\quad\quad x = -5$ dir.

CEVAP: C

2. $\dfrac{x + 3}{2} = 8$

$\quad x + 3 = 16$

$\quad\quad x = 13$ dür.

CEVAP: B

3. $2(x - 9) - 3 = 11$

$\quad 2(x - 9) = 11 + 3$

$\quad 2x - 18 = 14$

$\quad\quad 2x = 14 + 18$

$\quad\quad\quad x = 16$ olur.

CEVAP: C

4. $6 - 2[3 \cdot (4 - x) - 10] = 26$

$\quad 6 - 2[12 - 3x - 10] = 26$

$\quad\quad 6 - 2[2 - 3x] = 26$

$\quad\quad 6 - 4 + 6x = 26$

$\quad\quad\quad 2 + 6x = 26$

$\quad\quad\quad \dfrac{\cancel{6}x}{\cancel{6}} = \dfrac{24}{6}$

$\quad\quad\quad\quad x = 4$ dür.

CEVAP: E

5. $2x - [-(x - 5) - (4 + x)] = x$

$\quad 2x - [-x + 5 - 4 - x] = x$

$\quad\quad 2x - [-2x + 1] = x$

$\quad\quad 2x + 2x - 1 = x$

$\quad\quad\quad 4x - 1 = x$

$\quad\quad\quad \dfrac{\cancel{3}x}{\cancel{3}} = \dfrac{1}{3}$

$\quad\quad\quad\quad x = \dfrac{1}{3}$ dür.

CEVAP: B

6.

$\quad x + \cancel{y} = 15$

$+ \;\dfrac{x - \cancel{y} = 7}{}$

$\quad\quad 2x = 22$

$\quad\quad\quad x = 11$

$x = 11$ sayısı herhangi bir denklemde yerine konursa,

$\quad\quad 11 + y = 15$

$\quad\quad\quad y = 4$ olur.

Buna göre, büyük sayı 11 dir.

CEVAP: A

7.

$$\frac{3x}{5} - \frac{x}{3} = \frac{1}{10}$$
$$\quad (3) \quad (5)$$

$$\frac{9x}{15} - \frac{5x}{15} = \frac{1}{10}$$

$$\frac{9x - 5x}{15} = \frac{1}{10}$$

$$\frac{4x}{15} \diagdown \frac{1}{10}$$

$$40x = 15$$

$$x = \frac{\overset{3}{\cancel{15}}}{\underset{8}{\cancel{40}}}$$

$$x = \frac{3}{8} \text{ dir.}$$

CEVAP: C

8.

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

$$\frac{x+1}{2(x-1)} - \frac{1}{x-1} = 2$$
$$\quad (1) \qquad (2)$$

$$\frac{x+1-2}{2 \cdot (x-1)} = 2$$

$$\frac{\cancel{x-1}}{2 \cdot (\cancel{x-1})} = 2$$

$\frac{1}{2} \neq 2$ olduğundan çözüm kümesi boş kümedir.

CEVAP: E

9.

$$\frac{6}{x} - \frac{7}{2} = \frac{1}{4}$$

$$\frac{6}{x} = \frac{1}{4} + \frac{7}{2}$$

$$\frac{6}{x} = \frac{1+14}{4}$$

$$\frac{6}{x} = \frac{15}{4}$$

$$\frac{\cancel{15}x}{\cancel{15}} = \frac{24}{15}$$

$$x = \frac{\overset{8}{\cancel{24}}}{\underset{5}{\cancel{15}}} = x = \frac{8}{5} \text{ dir.}$$

CEVAP: E

10.

$$\frac{2x-1}{4} - \frac{x-4}{2} = \frac{x+1}{6}$$
$$\quad (3) \qquad (6) \qquad (2)$$

$$\frac{6x-3}{12} - \frac{6x-24}{12} = \frac{2x+2}{12}$$

$$\frac{6x-3-6x+24}{\cancel{12}} = \frac{2x+2}{\cancel{12}}$$

$$21 = 2x+2$$

$$2x = 19$$

$$x = \frac{19}{2}$$

CEVAP: E

11. $\dfrac{1}{x} - \dfrac{1}{x+1} + \dfrac{1}{x+a} = \dfrac{3}{4}$

x = 1 denklemde yerine yazılırsa

$$\frac{1}{1} - \frac{1}{1+1} + \frac{1}{1+a} = \frac{3}{4}$$

$$1 - \frac{1}{2} + \frac{1}{a+1} = \frac{3}{4}$$

$$\frac{1}{a+1} = \frac{3}{4} - \frac{1}{2}$$

$$\frac{1}{a+1} = \frac{1}{4}$$

$$4 = a+1$$

$$a = 3 \text{ dür.}$$

CEVAP: B

12.

$$\frac{5}{x} + \frac{5}{y} = \frac{1}{5}$$
$$_{(y)} \quad _{(x)}$$

$$\frac{5y + 5x}{x \cdot y} = \frac{1}{5}$$

$$\frac{5(x + y)}{x \cdot y} = \frac{1}{5}$$

$$\frac{x + y}{xy} = \frac{1}{25} \text{ ise,}$$

$$\frac{xy}{x + y} = 25 \text{ bulunur.}$$

CEVAP: A

13.

$$3 + \cfrac{20}{6 - \cfrac{10}{8 + \cfrac{8}{5 + \cfrac{x}{2}}}} = 7$$

$$\cfrac{10}{8 + \cfrac{8}{5 + \cfrac{x}{2}}} = 1$$

$$5 + \frac{x}{2} = 4 \text{ ise}$$

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

$$x = -2 \text{ bulunur.}$$

CEVAP: B

14.

$$\frac{2}{x} - \frac{5}{y} = 7 \Rightarrow \frac{2y - 5x}{xy} = 7$$
$$_{(y)} \quad _{(x)}$$

$$x \cdot y = 3 \text{ ise}$$

$$\frac{2y - 5x}{3} = 7$$

$2y - 5x = 21$ olduğundan

$5x - 2y = -21$ dir.

CEVAP: E

15.

$$\frac{\dfrac{1}{a} + \dfrac{1}{b}}{\dfrac{1}{a} - \dfrac{1}{b}} = 4$$
$$_{(b) \quad (a)} \atop {(b) \quad (a)}$$

$$\frac{\dfrac{a + b}{ab}}{\dfrac{b - a}{ab}} = 4$$

$$\frac{a + b}{\cancel{ab}} \cdot \frac{\cancel{ab}}{b - a} = 4$$

$$\frac{a + b}{-\underbrace{(a - b)}_{4}} = 4 \text{ ise } a + b = -16$$

CEVAP: E

16.

$$\frac{a}{a - \dfrac{1}{a}} - \frac{1}{a^2 - 1} : \frac{1}{a + 2} = 3$$

$$\frac{a}{\dfrac{a^2 - 1}{a}} - \frac{1}{a^2 - 1} \cdot \frac{a + 2}{1} = 3$$

$$\frac{a^2}{a^2 - 1} - \frac{a + 2}{a^2 - 1} = 3$$

$$\frac{a^2 - a - 2}{a^2 - 1} = 3$$

$$\frac{(a - 2)(\cancel{a + 1})}{(a - 1)(\cancel{a + 1})} = 3$$

$$a - 2 = 3a - 3$$

$$2a = 1 \text{ ise } a = \frac{1}{2} \text{ dir.}$$

CEVAP: C

17.

$$3x - 2y = 16$$
$$+ \quad 2 \,/\, x + y = 7$$
$$\overline{\quad 3x - 2y = 16}$$
$$+ \quad 2x + 2y = 14$$
$$\overline{\quad 5x = 30}$$
$$x = 6$$

CEVAP: D

19.

$$2 \,/\, \frac{2}{x} - \frac{3}{y} = \frac{5}{2}$$
$$+ \quad -3 \,/\, \frac{1}{x} - \frac{2}{y} = \frac{2}{3}$$
$$\overline{\quad \frac{4}{x} - \frac{6}{\cancel{y}} = 5}$$
$$+ \quad \frac{-3}{x} + \frac{6}{\cancel{y}} = -2$$
$$\overline{\quad \frac{1}{x} = 3 \text{ ise } x = \frac{1}{3} \text{ dür.}}$$

CEVAP: B

20.

$$2 \,/\, \frac{2}{x} + 3y = 5$$
$$+ \quad 3 \,/\, \frac{4}{x} - 2y = 6$$
$$\overline{\quad \frac{4}{x} + 6\cancel{y} = 10}$$
$$+ \quad \frac{12}{x} - 6\cancel{y} = 18$$
$$\overline{\quad \frac{16}{x} = 28}$$
$$28x = 16$$
$$x = \frac{\overset{4}{\cancel{16}}}{\underset{7}{\cancel{28}}} = \frac{4}{7} \text{ dir.}$$

CEVAP: D

18.

$$a + \frac{1}{b} = 5 \Rightarrow \frac{ab+1}{b} = 5$$
$$b + \frac{1}{a} = 7 \Rightarrow \frac{ab+1}{a} = 7$$

olduğundan;

ab + 1 = 5b

ab + 1 = 7a

5b = 7a , b = 7k , a = 5k alınırsa

$$\frac{a+b}{a-b} = \frac{7k+5k}{5k-7k} = \frac{12k}{-2k} = -6 \text{ bulunur.}$$

CEVAP: B