

$$1. \frac{\text{Limon suyu}}{\text{Tüm karışım}} \cdot 100 = \frac{14}{6 + 14 + 20} \cdot 100 = \frac{14}{40} \cdot 100 = \frac{7}{2} \cdot 100 = \%35$$

Cevap: C

$$2. \begin{array}{|c|} \hline \%a \\ \hline \text{şeker} \\ \hline 40 \text{ lt} \\ \hline \end{array} + \begin{array}{|c|} \hline \%20 \\ \hline \text{şeker} \\ \hline 10 \text{ lt} \\ \hline \end{array} = \begin{array}{|c|} \hline \%12 \\ \hline \text{şeker} \\ \hline 50 \text{ lt} \\ \hline \end{array}$$

$$40 \cdot a + 20 \cdot 10 = 50 \cdot 12$$

$$4a + 20 = 60$$

$$4a = 40 \Rightarrow a = 10$$

Cevap: C

$$3. \begin{array}{|c|} \hline \%100 \\ \hline \text{alkol} \\ \hline x \text{ gr} \\ \hline \text{alkol} \\ \hline \end{array} + \begin{array}{|c|} \hline \%0 \\ \hline \text{alkol} \\ \hline 130 \text{ gr} \\ \hline \text{su} \\ \hline \end{array} + \begin{array}{|c|} \hline \%40 \\ \hline \text{alkol} \\ \hline 50 \text{ gr} \\ \hline \end{array} = \begin{array}{|c|} \hline \%20 \\ \hline \text{alkol} \\ \hline 50 + 130 + x \\ \hline \end{array}$$

$$100 \cdot x + 0 + 50 \cdot 40 = (x + 180) \cdot 20$$

$$100x + 2000 = 20x + 3600$$

$$80x = 1600 \Rightarrow x = 20 \text{ gr.}$$

Cevap: E

$$4. \text{Şeker miktar} = 400 \cdot \frac{45}{100} + 600 \cdot \frac{25}{100} = 180 + 150 = 330 \text{ gr}$$

Cevap: D

$$5. \begin{array}{|c|} \hline 22 \\ \hline \text{ayar} \\ \hline 20 \text{ gram} \\ \hline \end{array} + \begin{array}{|c|} \hline 18 \\ \hline \text{ayar} \\ \hline 20 \text{ gram} \\ \hline \end{array} = \begin{array}{|c|} \hline x \\ \hline \text{ayar} \\ \hline 40 \text{ gram} \\ \hline \end{array}$$

$$\frac{1}{20} \cdot 22 + \frac{1}{20} \cdot 18 = \frac{2}{40} \cdot x$$

$$40 = 2x \Rightarrow x = 20$$

Cevap: C

$$6. \begin{array}{|c|} \hline \%65 \\ \hline \text{mavi} \\ \hline A \\ \hline \end{array} + \begin{array}{|c|} \hline \%39 \\ \hline \text{mavi} \\ \hline B \\ \hline \end{array} = \begin{array}{|c|} \hline \%52 \\ \hline \text{mavi} \\ \hline A + B \\ \hline \end{array}$$

$$A \cdot \frac{5}{65} + B \cdot \frac{3}{39} = (A + B) \cdot \frac{4}{52}$$

$$5A + 3B = 4A + 4B$$

$$A = B \Rightarrow \frac{A}{B} = 1$$

Cevap: D

7. I. Dökülmelerde şeker oranı değişmez.

$$\text{II.} \begin{array}{|c|} \hline \%50 \\ \hline \text{şeker} \\ \hline 80 \text{ gr} \\ \hline \end{array} + \begin{array}{|c|} \hline \%0 \\ \hline \text{şeker} \\ \hline 10 \text{ gr} \\ \hline \text{su} \\ \hline \end{array} + \begin{array}{|c|} \hline \%100 \\ \hline \text{şeker} \\ \hline 10 \text{ gr} \\ \hline \text{şeker} \\ \hline \end{array} = \begin{array}{|c|} \hline \%x \\ \hline \text{şeker} \\ \hline 100 \text{ gr} \\ \hline \end{array}$$

$$80 \cdot 50 + 10 \cdot 100 = 100 \cdot x$$

$$50 = x \Rightarrow \text{değişmedi}$$

$$\text{III.} \begin{array}{|c|} \hline \%50 \\ \hline \text{şeker} \\ \hline 80 \text{ gr} \\ \hline \end{array} - \begin{array}{|c|} \hline \%0 \\ \hline \text{şeker} \\ \hline 10 \text{ gr} \\ \hline \text{su} \\ \hline \end{array} + \begin{array}{|c|} \hline \%100 \\ \hline \text{şeker} \\ \hline 5 \text{ gr} \\ \hline \text{şeker} \\ \hline \end{array} = \begin{array}{|c|} \hline \%y \\ \hline \text{şeker} \\ \hline 75 \text{ gr} \\ \hline \end{array}$$

$$80 \cdot 50 + 5 \cdot 100 = 75y$$

$$4500 = 75y$$

$$y = 60 \Rightarrow \text{değişti.}$$

O halde I ve II değiştirmez.

Cevap: C

$$\begin{array}{|c|} \hline \%20 \\ \hline \text{tuz} \\ \hline 100 \text{ gr} \\ \hline \end{array} + \begin{array}{|c|} \hline \%100 \\ \hline \text{tuz} \\ \hline A \text{ gr tuz} \\ \hline \end{array} + \begin{array}{|c|} \hline \%0 \\ \hline \text{su} \\ \hline B \text{ gr su} \\ \hline \end{array} = \begin{array}{|c|} \hline \%20 \\ \hline \text{tuz} \\ \hline 100 + A + B \\ \hline \end{array}$$

$$100 \cdot 20 + A \cdot 100 = 20(100 + A + B)$$

$$100 \cdot 20 + A \cdot 100 = 20 \cdot 100 + 20 \cdot A + 20B$$

$$80 \cdot A = 20B$$

$$B = 4A \Rightarrow \frac{A}{B} = \frac{A}{4A} = \frac{1}{4}$$

Cevap: C

$$9. \bullet A \rightarrow \frac{\text{Şeker}}{\text{Karışım}} \cdot 100 = \frac{5}{20} \cdot 100 = \%25 \text{ şeker}$$

$$B \rightarrow \frac{\text{Şeker}}{\text{Karışım}} \cdot 100 = \frac{10}{50} \cdot 100 = \%20 \text{ şeker}$$

$$\bullet \begin{array}{|c|} \hline \%25 \\ \hline \text{şeker} \\ \hline A \text{ gr} \\ \hline \end{array} + \begin{array}{|c|} \hline \%20 \\ \hline \text{şeker} \\ \hline B \text{ gr} \\ \hline \end{array} = \begin{array}{|c|} \hline \%x \\ \hline \text{şeker} \\ \hline A + B \text{ gr} \\ \hline \end{array} \quad (A = B)$$

$$25A + 20 \cdot A = (A + A) \cdot x$$

$$45A = 2Ax \Rightarrow x = 22,5$$

Cevap: A

$$10. \text{ Karışımın } \frac{4}{5} \cdot 100 = \%80 \text{ i şekerdir.}$$

$$\begin{array}{|c|} \hline \%80 \\ \hline \text{şeker} \\ \hline 100 - 20 = 80 \text{ kg} \\ \hline \end{array} + \begin{array}{|c|} \hline \%0 \\ \hline \text{şeker} \\ \hline 20 \text{ kg un} \\ \hline \end{array} = \begin{array}{|c|} \hline \%x \\ \hline \text{şeker} \\ \hline 100 \text{ kg} \\ \hline \end{array}$$

$$80 \cdot 80 = 100 \cdot x$$

$$x = 64$$

Cevap: E

$$\begin{array}{|c|} \hline \%60 \\ \hline \text{tuz} \\ \hline 80 - 80 \cdot \frac{40}{100} = 48 \text{ lt} \\ \hline \end{array} + \begin{array}{|c|} \hline \%0 \text{ tuz} \\ \hline \\ \hline \frac{32}{2} = 16 \text{ lt su} \\ \hline \end{array} + \begin{array}{|c|} \hline \%100 \\ \hline \text{su} \\ \hline \frac{32}{2} = 16 \text{ lt tuz} \\ \hline \end{array} = \begin{array}{|c|} \hline \%x \\ \hline \text{tuz} \\ \hline 80 \text{ lt} \\ \hline \end{array}$$

$$(Dökülen = 32 \text{ lt})$$

$$\frac{3}{60} \cdot 48 + 16 \cdot \frac{5}{100} = \frac{4}{80} \cdot x$$

$$144 + 80 = 4x$$

$$224 = 4 \cdot x$$

$$56 = x$$

Cevap: B

$$12. \quad 4a = 5b$$

$$3b = 4c \Rightarrow a = 5k$$

$$b = 4k$$

$$c = 3k$$

$$c \text{ 'nin bulunma yüzdesi } \frac{c}{a+b+c} \cdot 100 = \frac{3k}{12k} \cdot 100 = \%25 \text{ olur.}$$

Cevap: B

1. I.

$$\begin{array}{|c|} \hline \%30 \\ \hline \text{tuz} \\ \hline 80 \text{ gr} \\ \hline \end{array} + \begin{array}{|c|} \hline \%70 \\ \hline \text{tuz} \\ \hline 80 \text{ gr} \\ \hline \end{array} = \begin{array}{|c|} \hline \%x \\ \hline \text{tuz} \\ \hline 160 \text{ gr} \\ \hline \end{array}$$

$$80 \cdot 30 + 80 \cdot 70 = 160 \cdot x$$

$$100 = 2x \Rightarrow x = \%50 \text{ tuz}$$

II.

$$\begin{array}{|c|} \hline \%30 \\ \hline \text{tuz} \\ \hline 80 \text{ gr} \\ \hline \end{array} + \begin{array}{|c|} \hline \%100 \\ \hline \text{tuz} \\ \hline 20 \text{ gr tuz} \\ \hline \end{array} = \begin{array}{|c|} \hline \%x \\ \hline \text{tuz} \\ \hline 100 \text{ gr} \\ \hline \end{array}$$

$$80 \cdot 30 + 20 \cdot 100 = 100 \cdot x$$

$$24 + 20 = x = \%44 \text{ tuz}$$

III.

$$\begin{array}{|c|} \hline \%30 \\ \hline \text{tuz} \\ \hline 80 \text{ gr} \\ \hline \end{array} + \begin{array}{|c|} \hline \%0 \\ \hline \text{tuz} \\ \hline 32 \text{ gr su} \\ \hline \end{array} = \begin{array}{|c|} \hline \%x \\ \hline \text{tuz} \\ \hline 48 \text{ gr} \\ \hline \end{array}$$

$$80 \cdot 30 = 48 \cdot x \Rightarrow x = \%50 \text{ tuz}$$

$$2400 = 48x$$

$$x = 50$$

O halde I ve III'te istenilen sağlanır.

Cevap: C

2.

$$\begin{array}{|c|} \hline \%80 \\ \hline \text{tuz} \\ \hline a \text{ lt} \\ \hline \end{array} + \begin{array}{|c|} \hline \%30 \\ \hline \text{tuz} \\ \hline b \text{ lt} \\ \hline \end{array} = \begin{array}{|c|} \hline \%x \\ \hline \text{tuz} \\ \hline a + b \\ \hline \end{array}$$

(a = b olsaydı)

$$80 \cdot a + 30 \cdot b = x(a + b)$$

$$80a + 30 \cdot a = x(a + a)$$

$$110a = 2ax$$

$$x = 55 \text{ olurdu}$$

b > a olduğu için %30 doğru değer  $\Rightarrow$  (30, 55)

Cevap: C

3. Yağ = 100x kg

Un = 100y kg

$$1. \text{ kete} \rightarrow 100x \cdot \frac{40}{100} + 100y \cdot \frac{60}{100} = 32$$

$$40x + 60y = 32$$

$$2. \text{ kete kalanlarla yapıyor} \rightarrow 60x + 40y = 30$$

$$\Rightarrow 40x + 60y = 32$$

$$- 60x + 40y = 30$$

$$20y - 20x = 2$$

$$\Rightarrow \cdot 5 / 20y - 20x = 2$$

$$100y - 100x = 10 \text{ kg olur.}$$

Cevap: C

TASARI EĞİTİM YAYINLARI

4. 100 gr karışım hazırlasın

$$\begin{array}{|c|} \hline 120 \text{ TL} \\ \hline \\ \hline \end{array} + \begin{array}{|c|} \hline 80 \text{ TL} \\ \hline \\ \hline \end{array} + \begin{array}{|c|} \hline x \text{ TL} \\ \hline \\ \hline \end{array} = \begin{array}{|c|} \hline 82 \text{ TL} \\ \hline \\ \hline \end{array}$$

100.  $\frac{20}{100} = 20 \text{ gr}$  fıstık      100.  $\frac{50}{100} = 50 \text{ gr}$  fındık      30 gr leblebi (kalan)      100 gr

$$20 \cdot 120 + 50 \cdot 80 + 30 \cdot x = 100 \cdot 82$$

$$240 + 400 + 3x = 820$$

$$640 + 3x = 820$$

$$3x = 820 - 640 = 180$$

$$x = 60 \text{ TL}$$

Cevap: D

$$5. A \rightarrow \frac{60}{20+60} \cdot 100 \Rightarrow \%75 \text{ su}$$

$$\bullet \text{ A'nın yarısı } \frac{20+60}{2} = 40 \text{ gr ve \%75 su}$$

$$\Rightarrow \begin{array}{|c|} \hline \text{A kabı} \\ \hline \%75 \\ \text{su} \\ \hline 40 \text{ gr} \\ \hline \end{array} + \begin{array}{|c|} \hline \text{B kabı} \\ \hline \%72 \\ \text{su} \\ \hline \text{A gr} \\ \hline \end{array} = \begin{array}{|c|} \hline \%73 \\ \text{su} \\ \hline \text{A} + 40 \\ \hline \end{array}$$

$$40.75 + A.72 = 73(A + 40)$$

$$3000 + 72A = 73A + 2920$$

$$80 \text{ gr} = A$$

Cevap: A

$$6. \begin{array}{|c|} \hline \%x \\ \text{tuz} \\ \hline x \text{ lt} \\ \hline \end{array} - \begin{array}{|c|} \hline \%0 \\ \text{tuz} \\ \hline \frac{x}{3} \text{ lt su} \\ \hline \end{array} = \begin{array}{|c|} \hline \%60 \\ \text{tuz} \\ \hline x - \frac{x}{3} \text{ lt} \\ \hline \end{array}$$

$$x \cdot x = \left(x - \frac{x}{3}\right) \cdot 60$$

$$x^2 = \frac{2x}{3} \cdot 60$$

$$x^2 = 40x \Rightarrow x = 40$$

Cevap: E

$$7. \text{ Karışım } 100 \text{ gr olsun} \Rightarrow \text{şeker miktarı } 100 \cdot \frac{20}{100} = 20 \text{ gr}$$

$$\begin{array}{|c|} \hline \%20 \\ \text{şeker} \\ \hline 100 \text{ gr} \\ \hline \end{array} + \begin{array}{|c|} \hline \%100 \\ \text{şeker} \\ \hline \frac{20 \text{ gr}}{2} = 10 \text{ gr şeker} \\ \hline \end{array} - \begin{array}{|c|} \hline \%0 \\ \text{şeker} \\ \hline 10 \text{ gr su} \\ \hline \end{array} = \begin{array}{|c|} \hline \%x \\ \text{şeker} \\ \hline 100 \text{ gr} \\ \hline \end{array}$$

$$100.20 + 10.100 = 100 \cdot x$$

$$x = 30 \text{ gr}$$

Cevap: C

$$8. 400 \text{ gr'lık karışımın } 2x \text{ gramı dökülsün}$$

$$\begin{array}{|c|} \hline \%10 \\ \text{portakal} \\ \hline 400 - 2x \\ \hline \end{array} + \begin{array}{|c|} \hline \%100 \\ \text{portakal} \\ \hline \frac{2x}{2} = x \text{ portakal} \\ \hline \end{array} + \begin{array}{|c|} \hline \%0 \\ \text{portakal} \\ \hline \frac{2x}{2} = x \text{ nar} \\ \hline \end{array} = \begin{array}{|c|} \hline \%85 \text{ nar} \\ \downarrow \\ \%15 \\ \text{portakal} \\ \hline 400 \text{ gr} \\ \hline \end{array}$$

$$(400 - 2x) \cdot \frac{1}{10} + \frac{10}{100} x = \frac{40}{100} \cdot 15$$

$$400 - 2x + 10x = 600$$

$$8x = 200$$

$$x = 25$$

O halde dökülen karışım  $2x = 2 \cdot 25 = 50$  gramdır.

Cevap: E

9. •

A	B	Yeni B
$\left  \begin{array}{c} \%10 \\ \text{şeker} \end{array} \right $	$+$ $\left  \begin{array}{c} \%20 \\ \text{şeker} \end{array} \right $	$=$ $\left  \begin{array}{c} \%x \\ \text{şeker} \end{array} \right $
$\frac{320}{2} = 160 \text{ gr}$	160 gr	320 gr

$$\frac{1}{160} \cdot 10 + \frac{1}{160} \cdot 20 = \frac{2}{320} \cdot x$$

$$30 = 2x \Rightarrow x = \%15$$

•

Yeni B	C	Yeni C
$\left  \begin{array}{c} \%15 \\ \text{şeker} \end{array} \right $	$+$ $\left  \begin{array}{c} \%35 \\ \text{şeker} \end{array} \right $	$=$ $\left  \begin{array}{c} \%y \\ \text{şeker} \end{array} \right $
$\frac{320}{2} = 160 \text{ gr}$	160 gr	320 gr

$$\frac{1}{160} \cdot 15 + \frac{1}{160} \cdot 35 = \frac{2}{320} \cdot y$$

$$50 = 2y \Rightarrow y = \%25 \text{ şeker}$$

$$\Rightarrow \%100 - \%25 = \%75 \text{ su}$$

Cevap: B

10. •

$$\frac{n+150}{5} = m$$

$$n = 5m - 150$$

•

$$m + n = 300$$

$$m + 5m - 150 = 300$$

$$6m = 450$$

$$\Rightarrow m = 75$$

$$\Rightarrow n = 225$$

Karışımın alkol oranı  $\frac{\text{Alkol}}{\text{Karışım}} \cdot 100 = \frac{75}{300} \cdot 100 = \%25 \text{ alkol}$

Cevap: C

1.

$$\begin{array}{|c|} \hline \%45 \\ \hline \text{tuz} \\ \hline \frac{A}{3} \\ \hline \end{array} + \begin{array}{|c|} \hline \%60 \\ \hline \text{tuz} \\ \hline \frac{B}{5} \\ \hline \end{array} = \begin{array}{|c|} \hline \%50 \\ \hline \text{tuz} \\ \hline \frac{A}{3} + \frac{B}{5} \\ \hline \end{array}$$

$$45 \cdot \frac{A}{3} + 60 \cdot \frac{B}{5} = 50 \left( \frac{A}{3} + \frac{B}{5} \right)$$

$$3A + \frac{12B}{5} = \frac{10A}{3} + 2B$$

$$\frac{12B}{5} - 2B = \frac{10A}{3} - 3A$$

$$\frac{2B}{5} = \frac{A}{3}$$

$$6.B = 5.A \Rightarrow \frac{A}{B} = \frac{6}{5} \text{ olur.}$$

Cevap: A

2.

$$1. \text{ imalathane } \frac{\text{Elma}}{\text{Şeker}} = \frac{25-9}{32} = \frac{16}{32} = \frac{1}{2} \text{ 'dir.}$$

$$2. \text{ imalathane } = \frac{\text{Elma}}{\text{Şeker}} = \frac{36}{84-x} \times \frac{1}{2}$$

$$72 = 84 - x$$

$$x = 12 \text{ kg şeker artmış.}$$

Cevap: D

3.

$$A \rightarrow \frac{\text{Su}}{\text{Karişim}} \cdot 100 = \frac{8}{8+2} \cdot 100 = \%80 \text{ su}$$

$$B \rightarrow \frac{\text{Su}}{\text{Karişim}} \cdot 100 = \frac{4}{6+4} \cdot 100 = \%40 \text{ su}$$

⇒

$$\begin{array}{|c|} \hline A \\ \hline \%80 \\ \hline \text{su} \\ \hline 100 \text{ gr} \\ \hline \end{array} + \begin{array}{|c|} \hline B \\ \hline \%40 \\ \hline \text{su} \\ \hline 150 \text{ gr} \\ \hline \end{array} = \begin{array}{|c|} \hline \%x \\ \hline \text{su} \\ \hline 250 \text{ gr} \\ \hline \end{array}$$

$$\frac{2}{100} \cdot 80 + \frac{3}{150} \cdot 40 = \frac{5}{250} \cdot x$$

$$160 + 120 = 5x$$

$$280 = 5x \Rightarrow x = 56 \text{ olur.}$$

Cevap: A

4.

$$I. 1. \text{ kahve} = \frac{\text{Sıcak su}}{\text{Karişim}} \cdot 100 = \frac{120}{82+14+24+120} \cdot 100 = \%50 \text{ 'dir.}$$

$$II. 2. \text{ kahve} = \frac{\text{Şeker}}{\text{Karişim}} \cdot 100 = \frac{12}{76+12+12+60} \cdot 100 = \%7,5 \text{ olur.}$$

$$III. \left. \begin{array}{l} 1. \text{ kahve} = \frac{\text{Süt tozu}}{\text{Karişim}} \cdot 100 = \frac{14}{240} \cdot 100 = \%5,83 \\ 2. \text{ kahve} = \frac{\text{Süt tozu}}{\text{Karişim}} \cdot 100 = \frac{12}{160} \cdot 100 = \%7,5 \end{array} \right\} \text{ küçüktür.}$$

O halde I ve III doğru

Cevap: D

5. Şekil 1'deki şeklin içindeki karışımın hacmi =  $h_1 \cdot 8 \cdot 12 = 96h_1$   
Şekil 2'deki şeklin içindeki karışımın hacmi =  $h_2 \cdot 6 \cdot 8 = 48h_2$

$$\Rightarrow 96h_1 \cdot \frac{8}{40} + 48h_2 \cdot \frac{10}{50} = (96h_1 + 48h_2) \cdot \frac{9}{45}$$

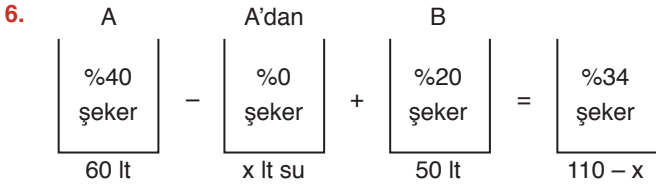
$$8 \cdot 96h_1 + 10 \cdot 48h_2 = 9 \cdot 96h_1 + 9 \cdot 48h_2$$

$$10 \cdot 48h_2 - 9 \cdot 48h_2 = 9 \cdot 96h_1 - 8 \cdot 96h_1$$

$$48h_2 = 96h_1$$

$$h_2 = 2h_1 \Rightarrow \frac{h_1}{h_2} = \frac{h_1}{2h_1} = \frac{1}{2} \text{ olur.}$$

Cevap: A



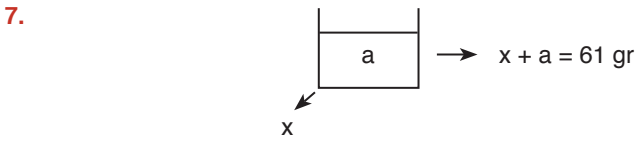
$$60 \cdot \frac{20}{40} + 50 \cdot \frac{10}{20} = 34 \cdot (110 - x)$$

$$1200 + 500 = 1870 - 17x$$

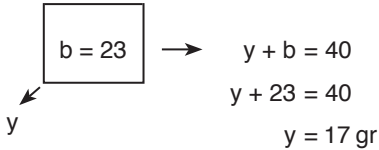
$$17x = 170$$

$$x = 10$$

Cevap: B



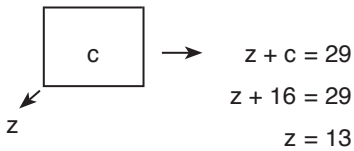
$$b = 61 - 38 = 23$$



$$y + 23 = 40$$

$$y = 17 \text{ gr}$$

$$c = 40 - 24 = 16 \text{ gr}$$



$$z + 16 = 29$$

$$z = 13$$

O halde  $y + z = 17 + 13 = 30 \text{ gr}$ 'dir.

Cevap: D

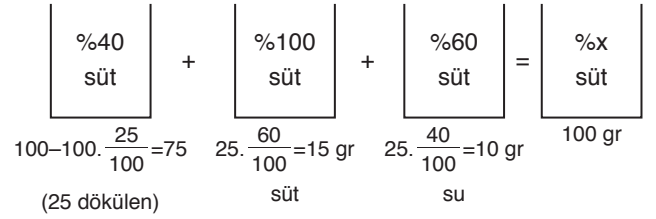
8.  $46 \text{ kg} \cdot \frac{32}{64} = (46 - x) \cdot \frac{92}{100}$

$$32 = 46 - x$$

O halde kayısılar  $46 - x = 32 \text{ kg}$  kalmıştır.

Cevap: D

9. Sütlü kahve = 100 gr olsun



$$75 \cdot \frac{2}{40} + 15 \cdot \frac{5}{100} = \frac{5}{100} x$$

$$150 + 75 = 5x$$

$$225 = 5x$$

$$\%45 = x$$

Cevap: E