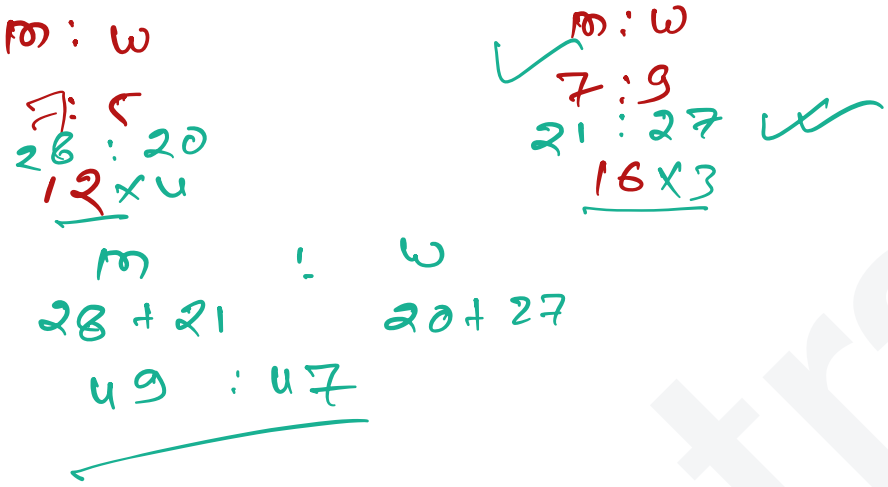
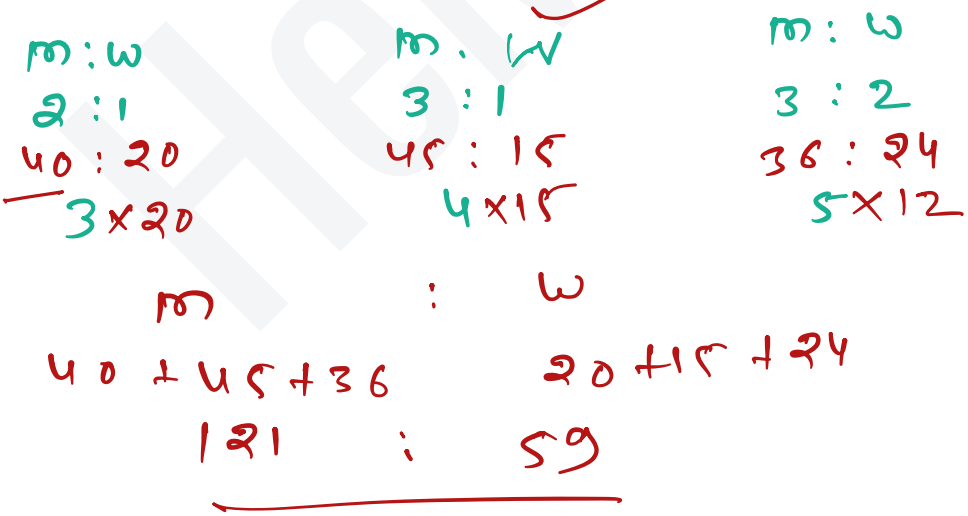
1) Two vessels contain milk & water in the ratio 7:5 and 7:9 If both vessels are mixed in ratio 1:1, find the ratio of milk and water in the new mixture?

A)49:47 B)5:4 C)47:49 D)41:43



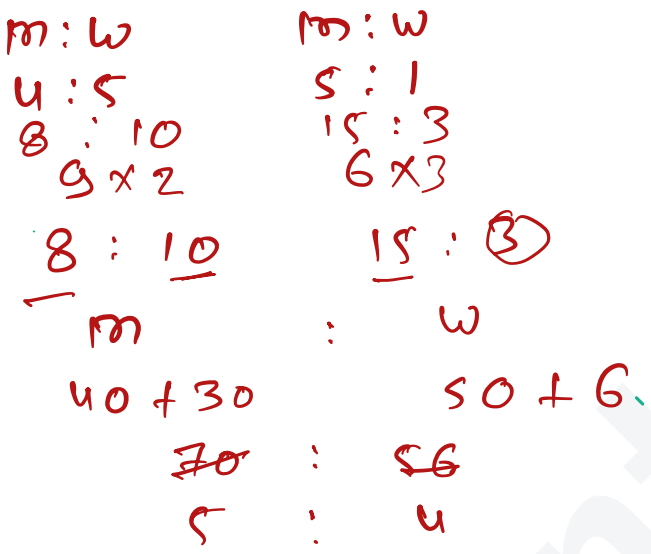
2) Three vessel each of 10 litre capacity contain of milk & water in the ratio 2:1, 3:1 and 3:2. if all the three vessels are emptied into a large vessel, find the ratio of milk & water in new mixture?

A)59:73 B)59:121 C)131:121 D)121:59



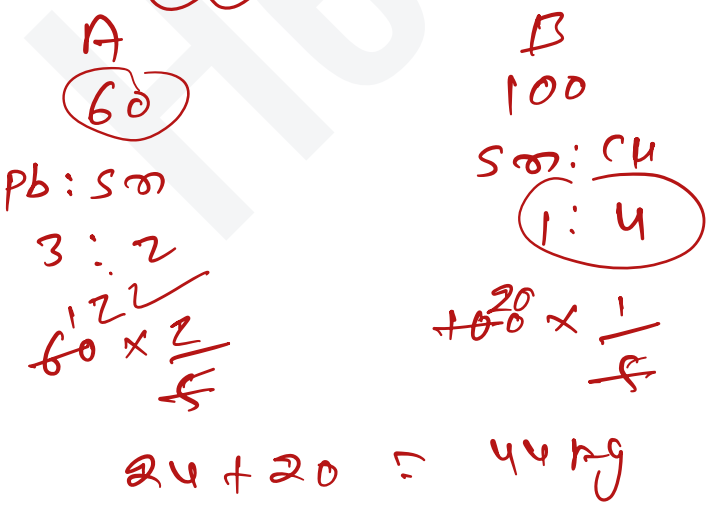
3) Two vessel A & B contain a mixture of milk & water in the ratio 4:5 and 5:1. If both vessel are mixed in the ratio 5:2. find the ratio of milk & watts in new mixture.

A)3:2 B)5:4 C)7:5 D)8:5



4) 60 kg of an alloy A is mixed with 100 kg of alloy B. If alloy A has lead and tin in the ratio 3:2 and alloy B has tin and copper in the ratio 1: 4, the amount of tin in the new alloy is ?

(a) 53 kg. (b) 44 kg. c) 80 kg. (d) 24 kg



5) A and B are two alloy of tin and copper prepared by mixing metals in proportions 13:11 and 5:7 respectively. If equal quantities of two alloys melted to form a 3rd alloy C, the proportion of tin and copper in C will be?

(a) 23:25. (b) 22:23. (c) 18:17. (d) 22:27

A : B

Tin : copper

13 : 11

24

Tin : copper

5 : 7

10 : 14

12 x 2

13 + 10 : 11 + 14

23 : 25

6) The ratios of copper to zinc in alloys A and B are 3: 4 and 5: 9, respectively. A and B are taken in the ratio 2: 3 and melted to form a new alloy C. What is the ratio of copper to zinc in C?

(a) 27:43. (b) 8:13. (c) 3:5. (d) 9:11

Cu Zn

3 : 4

6 : 8

7 x 2

6 : 8

Cu : Zn

5 : 9

14

Cu : Zn

12 + 15 : 16 + 27

27 : 43

7 x 2

14

Cu : Zn

3 : 4

2 x 2

12 : 16

Cu : Zn

5 : 9

1 x 3

15 : 27

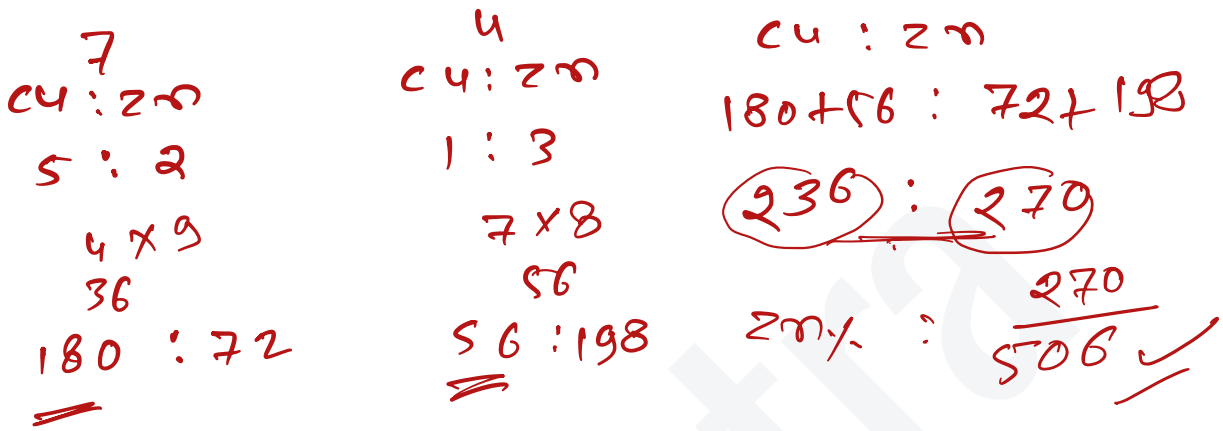
Cu : Zn

12 + 15 : 16 + 27

24 : 43

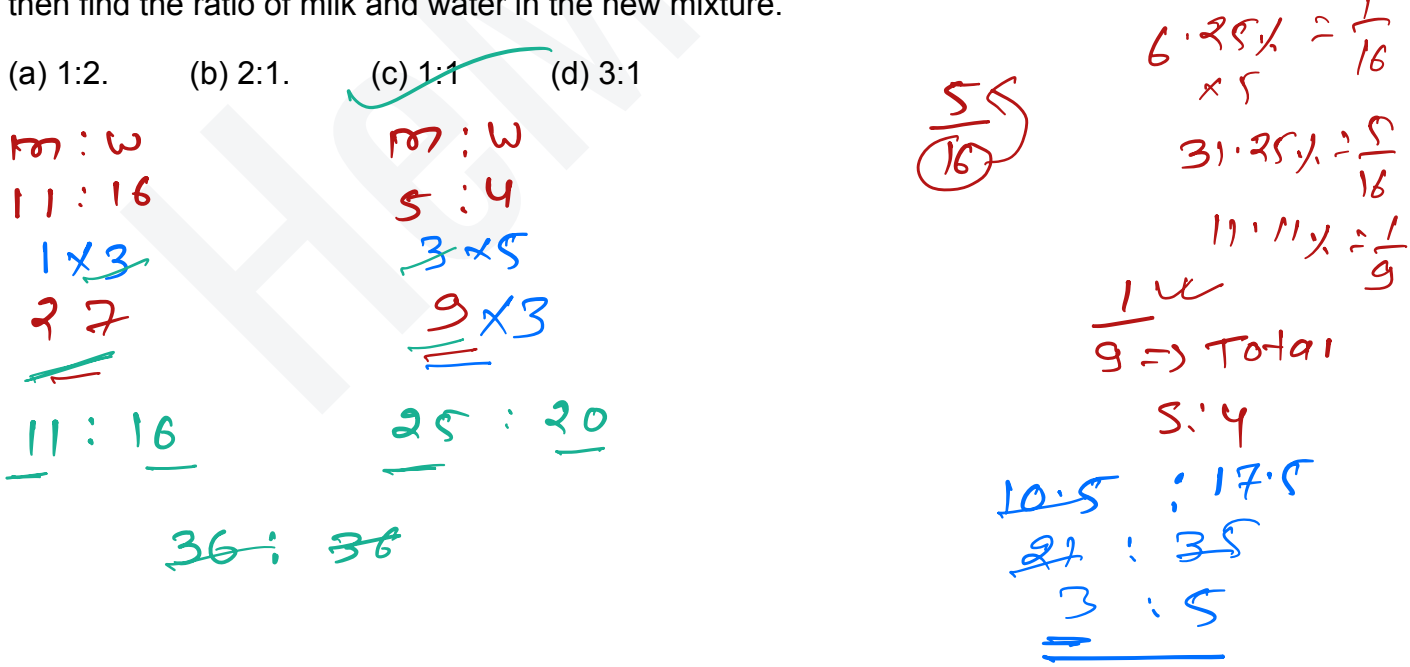
7) Alloy A contains copper and zinc in the ratio of 5:2 and alloy B contains copper and zinc in the ratio of 1:3. A and B are taken in the ratio of 9:8 and melted to form a new alloy. The percentage of zinc is the new alloy is closest to:

(a) 46.9% (b) 53.86% (c) 48.73% (d) 50.42%



8) Two vessels contain mixture of milk and water. In 1st mixture milk is 31.25% less than water and in 2nd mixture the difference between quantity of milk and water is 11.11% of total mixture. If 10.5liter of 1st mixture and 17.5liter of 2nd mixture is mixed then find the ratio of milk and water in the new mixture.

(a) 1:2. (b) 2:1. (c) 1:1 (d) 3:1



9) Two vessels contain milk water in the ratio5:9 and 7:11. If both vessels are mixed in ratio 4:3. Find the ratio of milk and water in new mixture?

(a) 141:131. (b) 107:89. (c) 109:185. (d) 114:175

14 = 2×7
M : W
5 : 9
9×4
12
60 : 108

18 = 2×9
M : W
7 : 11
7×3
7
49 : 77

M : W
60+49 : 108+77
109 :

10) Three glasses of equal volume contain acid mixed with water. The ratios of acid and water are 2: 3, 3:4 and 4: 5 respectively. Contents of these glasses are poured in a large vessel. The ratio of acid and water in the large vessel is:

(a) 411:540. (b) 401: 544. (c) 417:564 (d) 407: 560

A : W
2 : 3
5×7×9
63
126 : 189

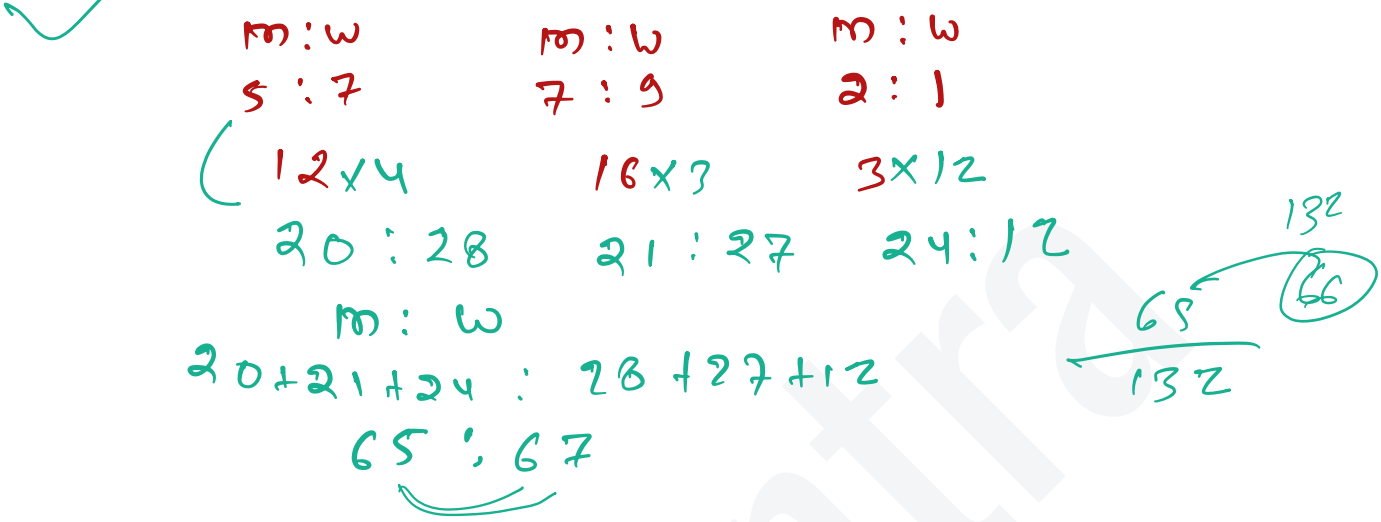
A : W
3 : 4
7×5×9
45
135 : 180

A : W
4 : 5
9×5×7
35
140 : 175

A : W
126+135+140 : 189+180+175
401 : 544

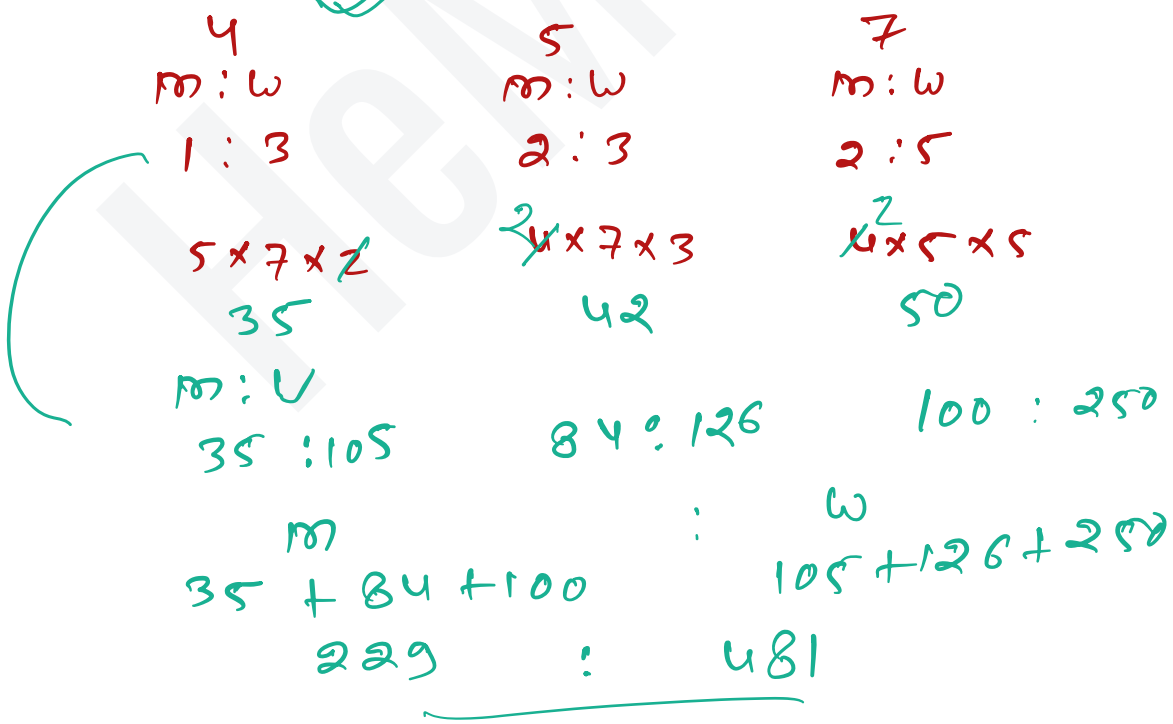
11) Three bottles of equal capacity have mixture of milk and water in ratio 5:7,7:9 and 2: 1 respectively. These three bottles are emptied into a large bottle. What is the percentage of milk in the new mixture?

(a) 49.6%. (b) 52.3%. (c) 51.2 % (d) 50.7%



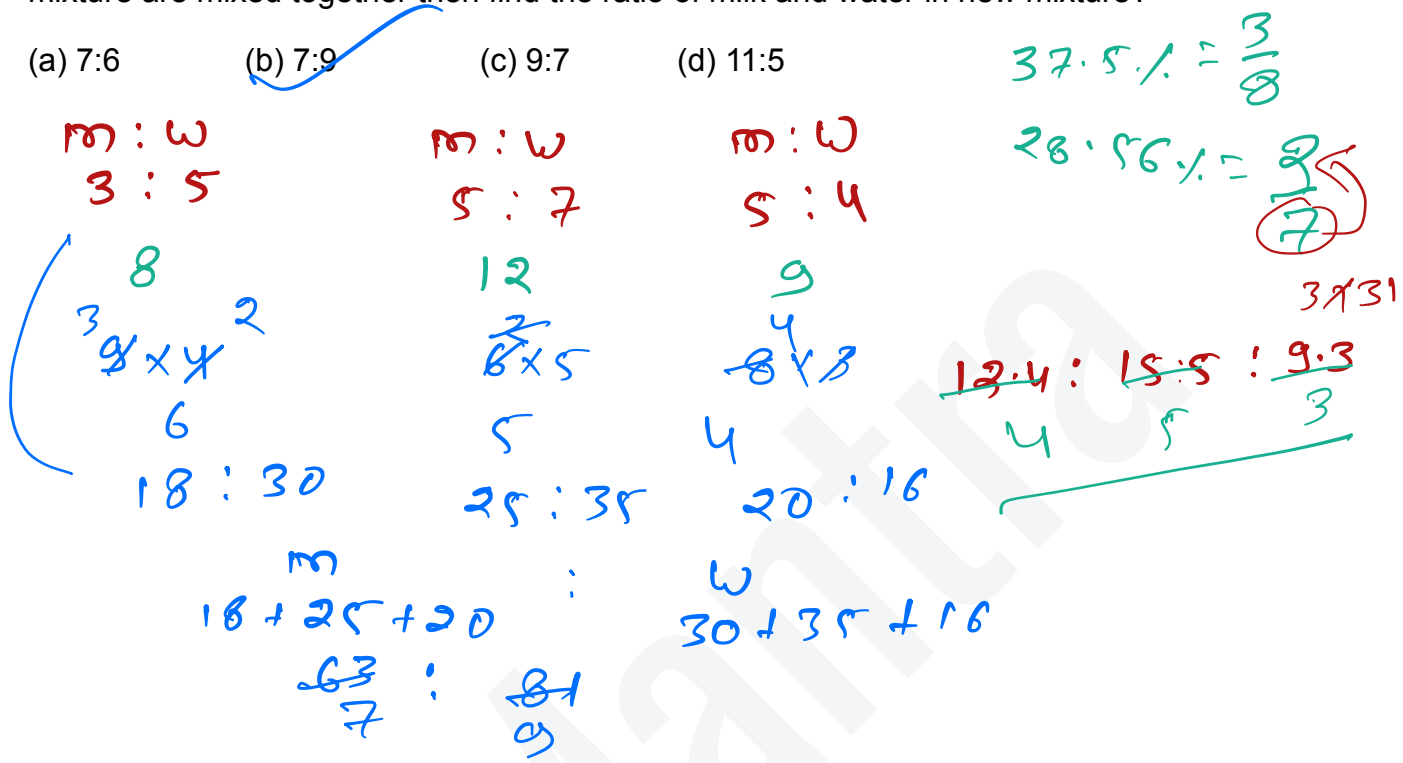
12) Three containers A, B and C are having mixture of milk and water in the ratio 1: 3, 2:3 and 2:5 respectively. If the capacities of the containers are in the ratio 2:3:5, find the ratio of milk to water, if the mixture of all 3 containers are mixed together.

(a) 143:296 (b) 438:962 (c) 348:962 (d) 481:219



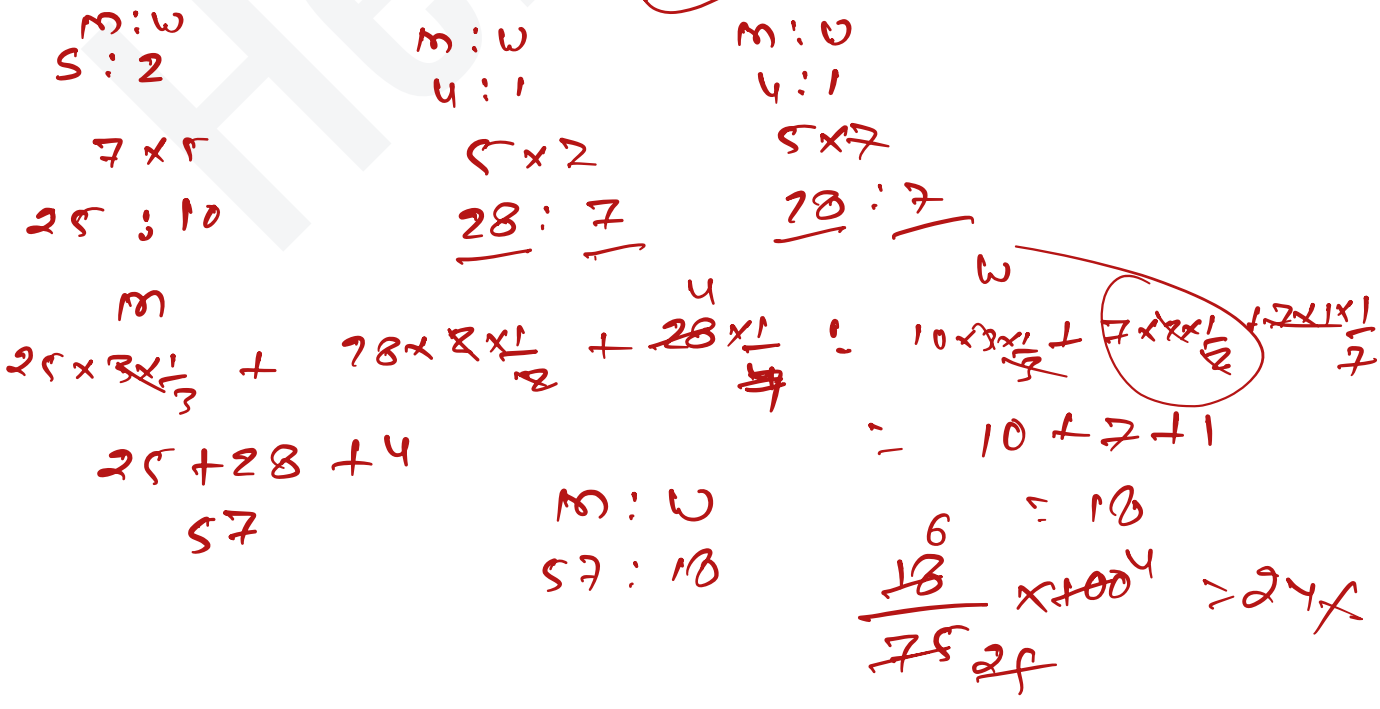
13) There are 3 mixture contain milk and water. In Ist mixture milk is 37.5% of mixture and in 2nd mixture milk is 28.56% less than water, in 3rd mixture the ratio of milk and water is 5.4. If 12.4 liter of 1st mixture, 15.5 liter of 2nd mixture and 9.3liter of 3rd mixture are mixed together then find the ratio of milk and water in new mixture?

(a) 7:6 (b) 7:9 (c) 9:7 (d) 11:5



14) Three vessels whose capacity are in 3:2:1 are completely filled with milk and water. Ratio of milk and water in mixture are 5:2, 4: 1, and 4: 1 respectively.Taking 1/3 first and mixture 1/2 of second and 1/7 of third, a new mixture obtained. Find % of water in new

(a) 28. % (b) 30. % (c) 32 % (d) 24%



Proportion

$a : b :: c : d$

$a : b :: c : d$

$\frac{a}{b} = \frac{c}{d}$

$ad = bc$

(5) 4th proportion

$a : b :: c : x$

$\frac{a}{b} = \frac{c}{x}$

$ax = bc$

$x = \frac{bc}{a}$

(*) 3rd proportion

$a : b :: b : x$

$ax = b^2$

$x = \frac{b^2}{a}$

(*) mean proportion

$a : x :: x : b$

$x^2 = ab$

$x = ab$

$a : b :: b : x$

$ax = b^2$

$x = \frac{b^2}{a}$

$3 : 7 \quad \frac{7^2}{3} = \frac{49}{3}$

$3 : 2$

$\frac{4}{3}$

$a : x :: x : b$

$x^2 = ab$

$x = \sqrt{ab}$

15) The third proportional of 12 and 18 is ?

(a) 3. (b) 6. (c) 27 (d) 144

$\frac{b^2}{a}$

$\frac{18^2}{12}$

$\frac{18 \times 18}{12}$

x

16) What is the fourth proportional to 189 273 and 153?

(a) 117. (b) 299. (c) 221. (d) 187

189 : 273 :: 153 : x

$x = \frac{273 \times 153}{189}$

$\frac{9}{7}$ (1)

17) What is the ratio of the mean proportional between 4.8 and 10.8 and the third proportional to 0.4 and 2.4?

(a) 2:3. (b) 1:2. (c) 3:2. (d) 2:1

18) What is the ratio of the third proportional to 0.4 and 0.8, to the mean proportional between 13.5 and 0.24

(a) 9:10. (b) 8:9. (c) 5:4. (d) 7:8

19) What number should be added to each of the number 103, 135, 110 and 144 so that the resulting numbers are in proportion?

(a) 12. (b) 15. (c) 9 (d) 6

$\frac{103+x}{135+x} = \frac{110+x}{144+x}$

34 CBD

$\frac{103+x}{32} = \frac{110+x}{34}$

16 17

$1751 + 17x = 1760 + 16x$

$x = 1760 - 1751 = 9$

$\frac{103+9}{144} = \frac{112}{144}$ 287

369

$\frac{110+9}{144+9} = \frac{119}{153}$ 7

9

20) What is the ratio between the fourth proportional of 3, 4, 9 and the mean proportional between 2 and 98?

(a) 7:8. (b) 7:6. (c) 8:7. (d) 6:7

$3 : 4 :: 9 : x$

$x = \frac{4 \times 9}{3}$

$= 12$

$\sqrt{2 \times 98}$

$= \sqrt{2 \times 2 \times 49}$

$= 2 \times 7$

12 : 14

6 7