

1) (d) 14

$$M_1 \times d_1 = M_2 \times d_2$$

$$140 \times 11 = 110 \times d_2$$

$$d_2 = \frac{140 \times 11}{110} = 14 \text{ cm}$$

2) (b) $5 \frac{5}{11}$

$$A \rightarrow 10$$

$$B \rightarrow 12$$

$$A+B \rightarrow \frac{xy}{x+y} = \frac{10 \times 12}{10+12} = \frac{10 \times 12}{22} = \frac{60}{11}$$

$$= 5 \frac{5}{11} \text{ cm}$$

3) (b) 6 cm

$$A \rightarrow 10$$

$$B \rightarrow 15$$

$$A+B \rightarrow \frac{xy}{x+y} = \frac{10 \times 15}{10+15} = \frac{10 \times 15}{25} = 6 \text{ cm}$$

4) (d) 60

$$\frac{d_1}{n_1} = \frac{d_2}{n_2}$$

$$\frac{20}{74} = \frac{d_2}{3/4}$$

$$d_2 = \frac{20}{74} \times \frac{3}{4} = \frac{20 \times 3}{74 \times 4} = \frac{60}{74}$$

$$= 60 \text{ cm}$$

5) $cd) 7 \frac{1}{2}$

A :	13	160% \rightarrow 12	160% \rightarrow 12
අගය	100% :	160%	100% \rightarrow ?
160 :	100		
12 :	?		

$$B = \frac{15}{2} = 7 \frac{1}{2} \text{ වර්ෂ.}$$

6) con වසා $2x$ A 15 B 45 A 45 B 45

$$A + B \rightarrow 15$$

$$B \rightarrow 45$$

$$A \rightarrow \frac{2y}{x-y} = \frac{45 \times 15}{45-15} = \frac{45 \times 15}{30} = \frac{45}{2}$$

$A \rightarrow \frac{45}{2}$ වර්ෂ
 $B \rightarrow 45$ වර්ෂ

$\therefore B$ වසා $2x$ A 45 B 45

7) con $3 \frac{3}{7}$

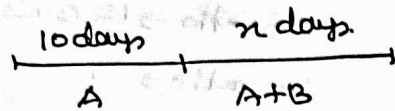
$A \rightarrow 24, B \rightarrow 6, C \rightarrow 12$

$$A+B+C \rightarrow \frac{1}{24} + \frac{1}{6} + \frac{1}{12} = \frac{1+4+2}{24} = \frac{7}{24}$$

$(A+B+C) - 1$ වර්ෂ $\frac{7}{24}$

$\frac{7}{24} \div \frac{7}{24} = 1$ වර්ෂ
 $= 3 \frac{3}{7}$ වර්ෂ.

8) (d) $16\frac{2}{3}$



$$A \rightarrow \frac{1}{25}$$

$$B \rightarrow \frac{1}{20}$$

$$10 \times \left(\frac{1}{25}\right) + x \left(\frac{1}{25} + \frac{1}{20}\right) = 1$$

$$\frac{10}{25} + x \left(\frac{20+25}{25 \times 20}\right) = 1$$

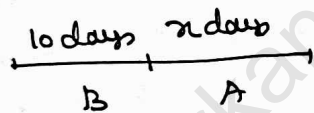
$$x \times \frac{45}{500} = 1 - \frac{10}{25} = \frac{25-10}{25} = \frac{15}{25}$$

$$x = \frac{15}{25} \times \frac{500}{45} = \frac{15 \times 20}{25 \times 45} = \frac{20}{3}$$

$$x = \frac{20}{3} = 6\frac{2}{3} \text{ ദിവസം}$$

മൊത്തം വേലം ദിവസം = $10 + 6\frac{2}{3} = 16\frac{2}{3}$ ദിവസം.

9) (a) 6 ദിവസം



$$A \rightarrow \frac{1}{18}$$

$$B \rightarrow \frac{1}{15}$$

$$10 \times \frac{1}{15} + x \times \frac{1}{18} = 1$$

$$\frac{10}{15} + \frac{x}{18} = 1 \Rightarrow \frac{x}{18} = 1 - \frac{10}{15} = \frac{15-10}{15} = \frac{5}{15}$$

$$x = \frac{5}{15} \times 18 = \frac{5}{15} \times 18 = 6$$

$$x = 6 \text{ ദിവസം.}$$

10) (a) 10

$$\frac{M_1 \times d_1}{W_1} = \frac{M_2 \times d_2}{W_2}$$

$$\frac{12 \times 10}{2400} = \frac{M_2 \times 18}{3600}$$

$$M_2 = \frac{12 \times 10 \times 3600}{2400 \times 18} = \frac{12 \times 10 \times 3600}{2400 \times 18} = 10$$

= 10 කුලීන්

11) (b) 8.900 කුලීන් @ 600

$$A : B$$

$$\frac{1}{10} : \frac{1}{15}$$

$$15 : 10$$

$$A \text{ කුපය} = \frac{15}{15+10} \times 1500 = \frac{15}{25} \times 1500 = 900$$

$$B \text{ කුපය} = 1500 - 900 = 600$$

12) (d) 3

$$\text{2000} \rightarrow 4$$

$$\text{1000} \rightarrow 12$$

$$\text{2000} + \text{1000} \rightarrow \frac{24}{2+4}$$

$$= \frac{4 \times 12}{4+12} = \frac{4 \times 12}{16}$$

= 3 කුලීන්

13) (b) B. 2000

$$A : B$$

$$\frac{1}{20} : \frac{1}{25}$$

$$25 + 20 = 45$$

$$25 : 20$$

$$A \text{ കൂലി} = \frac{25}{45} \times 3600 = \frac{25}{45} \times 3600$$

$$= B. 2000.$$

14) (b) 90 lb

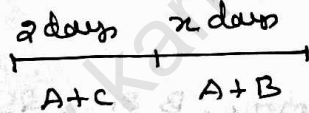
$$\frac{M_1 \times d_1}{W_1} = \frac{M_2 \times d_2}{W_2}$$

$$\frac{22 \times 10}{110} = \frac{30 \times 6}{W_2}$$

$$W_2 = \frac{30 \times 6 \times 110}{22 \times 10} = \frac{30 \times 6 \times 110}{22 \times 10}$$

$$= 90 \text{ lb.}$$

15) (b) 3



$$A \rightarrow \frac{1}{8}$$

$$B \rightarrow \frac{1}{12}$$

$$2\left(\frac{1}{8} + \frac{1}{16}\right) + x\left(\frac{1}{8} + \frac{1}{12}\right) = 1 \quad C \rightarrow \frac{1}{16}$$

$$2\left(\frac{16+8}{8 \times 16}\right) + x\left(\frac{12+8}{8 \times 12}\right) = 1$$

$$\frac{2 \times 24}{8 \times 16} + x \times \frac{20}{8 \times 12} = 1$$

$$\frac{5x}{24} = 1 - \frac{3}{8} = \frac{8-3}{8} = \frac{5}{8}$$

$$x = \frac{5}{8} \times \frac{24}{5} = 3$$

$$x = 3 \text{ days.}$$

16) (a) 16

$$A+B \rightarrow \frac{1}{18}$$

$$B+C \rightarrow \frac{1}{24}$$

$$C+A \rightarrow \frac{1}{36}$$

(+)

$$2(A+B+C) \rightarrow \frac{1}{18} + \frac{1}{24} + \frac{1}{36} = \frac{4+3+2}{72} = \frac{9}{72} = \frac{1}{8}$$

$$2(A+B+C) \rightarrow \frac{1}{8}$$

$$A+B+C \rightarrow \frac{1}{8 \times 2} = \frac{1}{16}$$

$$= \frac{16}{1} = 16 \text{ గంటలు}$$

17) (b) 40

$$\frac{M_1 \times d_1}{N_1} = \frac{M_2 \times d_2}{N_2}$$

$$\frac{24 \times 15}{180} = \frac{M_2 \times 12}{240}$$

$$M_2 = \frac{24 \times 15 \times 240}{180 \times 12} = \frac{4 \times 5 \times 2}{180 \times 12} = 40 \text{ గంటలు}$$

18) (c) 120

$$A \rightarrow 24$$

$$A+B \rightarrow 20$$

$$B \rightarrow \frac{xy}{x-y}$$

$$= \frac{24 \times 20}{24-20} = \frac{24 \times 20}{4} = 120$$

$$B = 120 \text{ గంటలు}$$

19) (d) 27

$$M_1 \times d_1 \times h_1 = M_2 \times d_2 \times h_2$$

$$7 \times 30 \times 9 = 10 \times d_2 \times 7$$

$$d_2 = \frac{7 \times 30 \times 9}{10 \times 7}$$

$$d_2 = 27 \text{ cm}$$

20) (b) 10

$$\frac{M_1 \times h_1}{w_1} = \frac{M_2 \times h_2}{w_2}$$

$$\frac{12 \times 5}{60} = \frac{M_2 \times 20}{200}$$

$$M_2 = \frac{12 \times 5 \times 200}{60 \times 20} = \frac{12 \times 5 \times 200}{1200} = 10$$

21) (d) 28 cm

$$M_1 \times d_1 = M_2 \times d_2$$

$$7 \times 52 = 13 \times d_2$$

$$d_2 = \frac{7 \times 52}{13} = 28 \text{ cm}$$

22) (c) 7

$$\frac{M_1 \times d_1}{w_1} = \frac{M_2 \times d_2}{w_2}$$

$$\frac{7 \times 7}{7} = \frac{x \times d_2}{x}$$

$$d_2 = 7 \text{ cm}$$

23) CC) $7\frac{1}{2}$ හතලිස්

$$\frac{xy}{x-y} = \frac{5 \times 3}{5-2} = \frac{5 \times 3}{3} = \frac{15}{2} = 7\frac{1}{2}$$

24) (d) 18

$$A+B \rightarrow \frac{1}{10}$$

$$B+C \rightarrow \frac{1}{15}$$

$$C+A \rightarrow \frac{1}{18}$$

$$2(A+B+C) \rightarrow \frac{1}{10} + \frac{1}{15} + \frac{1}{18} = \frac{9+6+5}{90} = \frac{20}{90} = \frac{2}{9}$$

$$A+B+C \rightarrow \frac{2}{9 \times 2} = \frac{1}{9}$$

$$A+B+C \rightarrow 9 \text{ හතලිස්}$$

$$A+C \rightarrow 18 \text{ හතලිස්}$$

$$B \rightarrow \frac{xy}{x-y} = \frac{18 \times 9}{18-9} = \frac{18 \times 9}{9} = 18$$

$$B = 18 \text{ හතලිස්.}$$

25) CC) 9

$$A \rightarrow 12$$

$$B \rightarrow 18$$

$$A+B \rightarrow \frac{xy}{x+y} = \frac{12 \times 18}{12+18} = \frac{12 \times 18}{30} = \frac{36}{5} \text{ හතලිස්.}$$

$$A+B+C \rightarrow 4 \text{ හතලිස්}$$

$$A+B \rightarrow \frac{36}{5} \text{ හතලිස්}$$

$$C \rightarrow \frac{xy}{x-y} = \frac{4 \times \frac{36}{5}}{\frac{36}{5} - 4} = \frac{4 \times \frac{36}{5}}{\frac{36-20}{5}}$$

$$= \frac{4 \times \frac{36}{5} \times \frac{5}{16}}{\frac{5}{16}} = 9 \text{ හතලිස්.}$$