$$\begin{array}{r} 8960 \\ -1920 \\ \hline 7780 \end{array} \qquad \begin{array}{r} 20 \\ \times 80 \\ \hline 00 \\ 160 \\ \hline 1600 \end{array} \qquad \begin{array}{r} 96 \\ \times 20 \\ \hline 00 \\ 192 \\ \hline 1920 \end{array}$$

(14) Marks secured by the candidate = 65 marks
Marks failed by the candidate = 3 marks
Pass marks = 65 + 3 = 68

$$\frac{20}{\cancel{40}} \times \frac{20}{\cancel{100}} = 40$$

% of pass mark = 40%

$\Rightarrow$ 40% = 68 marks

$\Rightarrow$ 100% = $\frac{\cancel{68}^{17}}{\cancel{40}} \times \cancel{100} = 170$

Total mark is 170.

15) In an examination, a candidate secured 125 marks and failed by 15 marks. If the pass percentage was 35%; find the maximum marks.

Ans: Marks secured by the candidate = 125 marks
Marks failed by the candidate = 15 marks
Pass marks = 125 + 15 = 140

% of pass mark = 35%

$\Rightarrow$ 35% = 140 marks

$\Rightarrow$ 100% = $\frac{140}{35} \times 100 = \frac{\cancel{140}^{20}}{\cancel{35}} \times \cancel{100}^{20} = 400$

$\therefore$ The maximum marks = 400 marks.

16) In an objective type paper of 150 questions; John got 80% correct answers and Mohan got 64% correct answers.

i) How many correct answers did each get?

ii) What percent is Mohans correct answers to John's correct answers?

$\frac{64}{100} \times 150 = 96$ $\quad \frac{80}{100} \times 150 = \frac{80}{100} \times 150$

$\frac{96}{120} \times 100 = 80\% \quad = 120$

Ans i) Total no of questions = 150
Correct answer done by John = 80%
No. of questions done by John correctly = 80% of 150
$= \frac{80}{100} \times 150 = 120$

Correct answer done by Mohan = 64%
No. of questions done by Mohan correctly = 64% of 150
$= \frac{64}{100} \times 150 = 96$

ii) % of Mohan's correct answers to John's correct answers
$= \frac{96}{120} \times 100 = 80\%$

∴ Mohan's correct answers are 80% of John's correct answers.

17) The number 8,000 is first increased by 20% and then decreased by 20%. Find the resulting number.

Ans) No = 8,000
% increased = 20%
Increased no = 20% of 8,000 $= \frac{20}{100} \times 8000 = 1600$

New no = 8000 + 1600 = 9600

% decreased = 20%
Decreased no = 20% of 9600 $= \frac{20}{100} \times 9600 = 1920$

Resulting no = 9600 − 1920 = 7680

∴ The resulting number is 7,680.

18) The number 12,000 is first decreased by 25% and then increased by 25%. Find the resulting number.

90 × 25 = 1450, 180, 3250

12000 − 3000 = 9000

120 × 25 = 1600, 1240, 3000

9000 + 2250 = 11250

Ans) Number = 12,000

% decreased = 25%

Decreased number = 25% of 12,000 = $\frac{25}{100} \times 12000 = 3,000$

New number = 12000 − 3000 = 9000

% increased = 25%

Increased number = 25% of 9000 = $\frac{25}{100} \times 9000 = 2,250$

Resulting number = 9000 + 2,250 = 11,250

∴ The resulting number is 11,250.

19) The cost of an article is first increased by 20% and then decreased by 30%, find the percentage change in the cost of the article.

Ans Let the cost of the article be ₹100

20% increases on ₹100 = $\frac{20}{100} \times 100 = 20$

Increased cost = 100 + 20 = 120

30% decrease on ₹120 = $\frac{30}{100} \times 120 = 36$

New cost = 120 − 36 = 84

Change in the cost = 100 − 84 = 16

% change in the cost = $\frac{16}{100} \times 100 = 16\%$

∴ 16% is decreased

20) The cost of an article is first decreased by 25%

and then further decreased by 40%. Find the percentage change in the cost of the article.

Sol) Let the cost of the article be ₹100

25% decrease on ₹100 = $\frac{25}{100} \times 100 = 25$

Decreased cost = 100 − 25 = 75

2nd decrease = 40% of ₹75

$= \frac{40}{100} \times 75^{15} = 30$

Cost after 2nd decrease = 75 − 30 = 45

Change in the cost of article = 100 − 45 = 55

% change = $\frac{55}{100} \times 100 = 55\%$

∴ & Decreased by 55%

Cost after 2nd decrease = 75 − 30 = 45

Change in the cost of article

= 100 − 45 = 55

% Chang = $\frac{55}{100} \times 100 = 55\%$