1) 25% of 200

$= \frac{25 \times 200}{100}$

$= 50$

2) 40% of a number = 80

Let the number be x

$\frac{40}{100} \times x = 80$

$x = \frac{80 \times 100}{40}$

$= \frac{800}{4} = 200$

3) 75% of a number = 150

$= \frac{150^{2} \times 100}{75}$

$= 200$

4) 15% of 120

$= \frac{15 \times 120}{100}$

$= 18\ \%$

5) 30% of a number = 90

$x = \frac{90^{3} \times 100}{30}$

$= 300$

6) Price increases from 200 to 250
% increase?

$$\frac{250-200}{200} = \frac{\text{New} - \text{old value}}{\text{old value}} \times 100$$

$$= \frac{50}{200} \times 100 = \frac{50}{2} = 25\%$$

7) 40000 to 5000

$$\frac{50000-40000}{40000} = \frac{10000}{40000} \times 100 = \frac{10000}{40}$$

$$= 25\%$$

8) 10000 to 8000

$$= \frac{10000-8000}{10000} \times 100$$

$$= \frac{2000}{10000} \times 100 = 20\%$$

9) 500 to 400

$$= \frac{500-400}{500} \times 100$$

$$= \frac{100}{500} \times 100 = \frac{100}{5} = 20\%$$

10) 600 to 450

$$= \frac{600-450}{600}$$

$$= \frac{150}{600} \times 100 = \frac{15000}{600}$$

$$= 25\%$$

11). 30% of 400 = 120, 40% of 300 = 120

$\frac{400 \times 30}{30}$ $\frac{30 \times 400}{100}$

$= \frac{12000}{3}$ $= 120\%$.

$\frac{40 \times 300}{100} = 120\%$.

Both for 120%.

12). 60% of his income and saves 8000 total income.

$= \frac{8000}{\cdot}$

13) A is 20% more than B, then B how much less than A.

$\frac{20 \times 100}{120}$

$= 16.67\%$.

14) $\frac{25 \times 100}{125}$

$= 20\%$.

15) . $\frac{40 \times 100}{140}$

$= \frac{400}{14}$

$= 28.57\%$.

16) Net Percentage change

$$= 20 - 10 + \frac{20 \times (-10)}{100}$$

$$= 10 + \frac{20 \times (-10)}{100}$$

$$= 8\%$$

17) Net Percentage change

$$30 - 20 + \frac{(30 \times (-20)}{100}$$

$$= .4\%$$

18) Net Percentage change

$$= 25 - 20 + \frac{25 \times (-20)}{100}$$

$$= 5 + \frac{25 \times (-20)}{100}$$

$$= 0.05 = 5\% \text{ increase}$$

19) Price increase by 40%. the decrease by 30%.

$$= 40 - 30 + \frac{40 \times (-30)}{100}$$

$$= 10 + \frac{40 \times (-30)}{100}$$

$$= 2\% \text{ increase}$$

20) overall change $= \frac{20 - 10 + 20 \times (-10)}{100}$

$$= \frac{10 + 20 \times (-100)}{100}$$

$$= 8\%.$$

21) SP = 25%.
Cost Price + 25% of cost price
= 125% of CP

22) Let CP be x
MP = 500, Discount = 10%.
SP = 500 - (10% of 500)
= 500 - 50.
= 450.
Profit = 8% of CP = 450 = x + 8% of x
450 = 1.08
x = 416.67

23) CP = 100, Profit = 20, SP = 120
Profit % on SP = (Profit / Selling Price) x 100

$= \frac{20}{120} \times 100$

$= \frac{2000}{120} = 16.67\%$

24) Discount % $= \frac{(MP - SP)}{MP} \times 100$

$= \frac{1200 - 960}{1200} \times 100$

$= \frac{240}{1200} \times 100$

$= 20\%$

25) Profit% $= \frac{SP - CP}{CP} \times 100$

$= \frac{650 - 500}{500} \times 100$

$= \frac{150}{500} \times 100$

$= 30\%$

26) A is income is 20% more than B's income be 100, then A's income 120, B's income less than A's by

$= \frac{120 - 100}{120} \times 100$

$= \frac{20 \times 100}{120}$

$= \frac{200}{12} = 16.67\%$

27) Boys : Girls = 3 : 2

total parts = 3 + 2 = 5

% of boys $= \left(\frac{3}{5}\right) \times 100$

$= \frac{300}{5}$

$= 60\%$

28) % increase $= \frac{\text{New Population} - \text{old}}{\text{Old Population}} \times 100$

$= \frac{250000 - 200000}{200000}$

$= \frac{50000 \times 100}{200000}$

$= \frac{50}{2} = 25\%$

25) Profit% $= \frac{SP - CP}{CP} \times 100$

$= \frac{650 - 500}{500} \times 100$

$= \frac{150}{500} \times 100$

$= 30\%$

26) A is income is 20% more than B's income be 100, then A's income 120, B's income less than A's by

$= \frac{120 - 100}{120} \times 100$

$= \frac{20 \times 100}{120}$

$= \frac{200}{12} = 16.67\%$

27) Boys : Girls = 3 : 2

total parts = 3 + 2 = 5

% of boys $= \left(\frac{3}{5}\right) \times 100$

$= \frac{300}{5}$

$= 60\%$

28) % increase $= \frac{\text{New Population} - \text{old}}{\text{Old Population}} \times 100$

$= \frac{250000 - 20000}{20000}$

$= \frac{50000 \times 10\%}{20000}$

$= \frac{50}{2} = 25\%$

29) Let total votes be x
candidate gets 65% votes and wins by 30000
difference = 65% of x − 35% of x
= 30% of x = 3000
$x = \left(\frac{3000}{30}\right) \times 100$

= 10,000

30) % increase $= \frac{30}{70} \times 100$

$= \frac{3000}{70}$

$= 42.85\%$

31) Net change $= (\text{increas} \times \text{decreas}) \times 100$

$= \frac{50 \times 50}{100}$

= 25% decrease

32) B is shorter than A by

$= \left(\frac{20}{120}\right) \times 100$

= 16.67

33) Let the number be x
expense = 75% of x, Saving
= 50000
(75% of x) + 5000
$0.75x + 5000$
$x = 20000$

35) Reduction required = increase %

$= \left(\frac{100}{100+\text{increase \%}}\right) \times 100$

$= \left(\frac{100}{120}\right) \times 100$

$= 16.67$

36) Net change $= \frac{(20-10)-(20\times 10)}{100} \times 100$

$= \frac{10-200}{100}$

$= -190$ %

38) SP = (100 − 20) % of 500

80% of 500

= 400

39) Net change $= \frac{(10\times 10)}{100}$

$= \frac{100}{100}$

= 1% decrease

40) Let total marks be x,

40% of x = 220

$\left(\frac{220}{40}\right) \times 100$

$= \frac{22000}{40}$

= 550

42) Net change $= \frac{30 \times 30}{100}$

$= \frac{900}{100}$

$= 9\%$ decrease

43) Population after 3 yrs

$10,000 \times (1.1)^3$

$= 10000 \times 1.331$

$= 13310$

44) 15% of A $= 20\%$ of B

$(15/100)A = (20/100)B$

$A/B = 20/15$

$= 4:3$

45) $SP = \left(\frac{125}{100}\right) \times 800$

$= \frac{125 \times 800}{100}$

$= 125 \times 8$

$= 1000$

46) $\%$ Profit $= \frac{250 - 200}{200} \times 100$

$= \frac{50}{200} \times 100$

$= \frac{50}{2}$

$= 25\%$

47) $CP = \left(\frac{100}{120}\right) \times 720$

$= \frac{100 \times 720^{6}}{120}$

$= 100 \times 6$

$= 600$

48) $SP = \left(\frac{85}{100}\right) \times 500$

$= \frac{85 \times 500}{100}$

$= 85 \times 5$

$= 425$

49) $SP = \left(\frac{90}{100}\right) \times 1500$

$= \frac{90 \times 1500}{100}$

$= 1350$

50) Net Profit % $= \frac{(30-10)-(30 \times 10)}{100}$

$= \frac{20 - 300}{100}$

$= \frac{-280}{100}$

$= 17\%$