$$
6^{\text {th }} \text { Class }
$$

> Mathematics: Ans : (C)

$$
\left(1-\frac{1}{2}\right)\left(1-\frac{1}{3}\right)\left(1-\frac{1}{4}\right) \ldots \ldots . .\left(1-\frac{1}{10}\right)=\frac{1}{2} \times \frac{2}{3} \times \frac{3}{4} \times \ldots \ldots \ldots \times \frac{8}{9} \times \frac{9}{10}=\frac{1}{10}
$$

Physics: Ans: (D)
> Chemistry: Ans: (D)
> Biology: Ans: (C)
$7^{\text {th }}$ Class
> Mathematics: Ans : 8
Ratio $=3: 2$
The two parts are 3 and 2
Sum of parts $=3+2=5$
Total number of pens $=20$
Therefore, Sheela's pens $=20 \times \frac{3}{5}=4 \times 3=12$ pens
And Sangeeta's pens $=20 \times \frac{2}{5}=4 \times 2=8$ pens
Physics: Ans: (A)
$>$ Chemistry: Ans: (A)
Biology: Ans: (A)
$8^{\text {th }}$ class
Mathematics: Ans: (D)
Since $x=3, y=2$
$\therefore \mathrm{x}+\mathrm{y}=3+2=5$ and $2 \mathrm{x}+3 \mathrm{y}=2(3)+3(2)=12$;
Let ' $a$ ' $3^{\text {rd }}$ proportional to $(x+y),(2 x+3 y)$
$\Rightarrow(\mathrm{x}+\mathrm{y}):(2 \mathrm{x}+3 \mathrm{y})=(2 \mathrm{x}+3 \mathrm{y}): \mathrm{a}$
$\Rightarrow(5: 12=12: a)$
$\Rightarrow \frac{5}{12}=\frac{12}{\mathrm{a}}$
$\Rightarrow \mathrm{a}=\frac{144}{5}$
Physics: Ans : (D)

Chemistry: Ans: (B)

$$
\underset{\text { Sod. formate }}{2 \mathrm{HCOONa}}(\mathrm{~s}) \xrightarrow{\Delta} \mathrm{H}_{2}(\mathrm{~g}) \uparrow+\underset{\substack{\text { COONa } \\ \text { Sod. oxalate }}}{\mathrm{COONa}}(\mathrm{~s})
$$

Biology: Ans: (A)
$9^{\text {th }}$ Class
Mathematics : Ans : (B)
Let $x$ be the sum of set 1 , of size 12 , with mean 10 . To find $X$ :
$\mathrm{X} / 12=10$, so $\mathrm{X}=120$
Let $Y$ be the sum of set 2 , of size 8 , with mean 12 . To find Y :
$\mathrm{Y} / 8=12$, so $\mathrm{Y}=96$
The combined set (sum of $x$ and $y$ ) $=120+96=216$
The combined set is of size $8+12=20$
So the mean of the combined set $=216 / 20=10.8$

## Physics: Ans : (A)

$>$ Chemistry: Ans: (B)

Biology: Ans: (B)
$10^{\text {th }}$ class
Mathematics: Ans : (B)
Suppose hypotenuse of the triangle is c and other sides are a and b obviously, $\mathrm{c}=\sqrt{a^{2}+b^{2}}$
We have, $\mathrm{a}+\mathrm{b}+\mathrm{c}=40$ and $\frac{1}{2} a b=40 \Rightarrow a b=80$
Therefore $40-(a-b)=\sqrt{a^{2}+b^{2}}$
$\Rightarrow(a+b)^{2}-2 \times 40 \times(a+b)+1600=a^{2}+b^{2}$
$\Rightarrow a^{2}+b^{2}+2 \times 80-80(a+b)+1600=a^{2}+b^{2}$
$\Rightarrow C=40-(a+b)=40-22=18 \mathrm{~cm}$
Physics: Ans: (B)
Chemistry: Ans: (C)
Biology: Ans: (A)
Reasoning : Ans: (D)

