Q1: $\quad$ Find the value of $\mathbf{n}$ if
$5000-25 n=991+993+995+997+999 ?$
A) -1
B) 0
VC) 1
D) $\mathbf{2 5}$

## Solution:

$5000-25 n=991+993+995+997+999$
$5000-25 n=4975 \Rightarrow 25 n=25 \Rightarrow n=1$

Answer: C

Q2: Evaluate $1-3+5-7+9-11$ $\qquad$ $+49=?$
A) $\mathbf{- 2 5}$
B) $\mathbf{- 2 4}$
C) 24
VD) 25

## Solution:

$1-3+5-7+9-11$ $+49=$
$-2 \times 12+49=-24+49=25$
Answer: D

## Q3: Evaluate

$(-3)+(-3)(-3)+(-3)(-3)(-3)+(-3)(-3)(-3)(-3)=?$
A) -120
B) $\mathbf{- 3 0}$
VC) 60
D) 90

## Solution:

$(-3)+(-3)(-3)+(-3)(-3)(-3)+(-3)(-3)(-3)(-3)=$ $-3+9-27+81=-30+90=60$

Q4: $\quad$ Evaluate $\frac{(-15) \div 5-2}{-11-4 \times(-3)}=$

## Solution:

$\frac{(-15) \div 5-2}{-11-4 \times(-3)}=\frac{-3-2}{-11+12}=-5$
VA) -5
B) 5
C) $\mathbf{- 1}$
D) 1

Answer: A

Q5: If $241 \times 113=27233$ then what is $241 \times 339=$ ?
A) 8169
B) 27233
C) $\mathbf{5 4 4 6 6}$
VD) 81699

## Solution:

$241 \times 339=3 \times 27233=81699$
Answer: D

Q6: Evaluate the following.
$2 \frac{1}{2} \times\left(4 \frac{2}{3}\right)-2 \frac{1}{3}+4 \frac{2}{3}-15=?$

## Solution:

$$
\begin{aligned}
& 2 \frac{1}{2} \times\left(4 \frac{2}{3}\right)-2 \frac{1}{3}+4 \frac{2}{3}-15=\frac{5}{2} \times \frac{14}{3}-\frac{7}{3}+\frac{14}{3}-15 \\
& \frac{35-7+14}{3}-15=\frac{42}{3}-15=14-15=-1
\end{aligned}
$$

A) $\mathbf{- 2 9}$
B) $\mathbf{2 9}$
C) 1
VD) -1

Q7: $\left\{\left[30 \div\left(1+3 \frac{2}{7}\right) \times 2 \frac{1}{7}\right] \times\left(1 \frac{2}{3}-1 \frac{1}{5}\right)\right\} \div 7=$ ?
VA) 1
B) 5
C) 7
D) 105

## Solution:

$$
\begin{aligned}
& \left\{\left[30 \div\left(1+3 \frac{2}{7}\right) \times 2 \frac{1}{7}\right] \times\left(1 \frac{2}{3}-1 \frac{1}{5}\right)\right\} \div 7= \\
& \left\{\left[30 \div\left(1+\frac{23}{7}\right) \times \frac{15}{7}\right] \times\left(\frac{5}{3}-\frac{6}{5}\right)\right\} \div 7= \\
& \left\{\left[30 \times \frac{7}{30} \times \frac{15}{7}\right] \times \frac{7}{15}\right\} \times \frac{1}{7}=1
\end{aligned}
$$

Answer: A

## Q8: What is the value of the following

 $\sqrt{81}-\sqrt{64}+\sqrt{49}-\sqrt{36}+\sqrt{25}-\sqrt{16}+\sqrt{9}-\sqrt{4}+\sqrt{1}=?$A) 2
B) 3
C) 4
VD) 5

## Solution:

$\sqrt{81}-\sqrt{64}+\sqrt{49}-\sqrt{36}+\sqrt{25}-\sqrt{16}+\sqrt{9}-\sqrt{4}+\sqrt{1}=$
$\Rightarrow 9-8+7-6+5-4+3-2+1=1 \times 5=5$

Answer: D

Q9: If $x=13.5$ then $2 x+3 x+4 x \oplus 5 x+6 x=$ ?
A) 135
B) $\mathbf{2 5 6 . 5}$
C) 283.5

## Solution:

$$
2 x+3 x+4 x+5 x+6 x=20 x=20 \times 13.5=270
$$

Answer: D

## Q10: Solve the following equation for $x$ :

$0.4(2 x-3)-0.3(5-4 x)=6.3$
VA) $9 / 2$
B) $5 / 2$
C) 5
D) 4

## Solution:

$0.4(2 x-3)-0.3(5-4 x)=6.3 \Rightarrow$
$0.8 x-1.2-1.5+1.2 x=6.3 \Rightarrow$
$2 x=6.3+2.7 \Rightarrow x=9 / 2$

Answer: A
Q11: If $\frac{1}{5}\left(3 x+\frac{15}{4}\right)-\frac{1}{4}\left(\frac{4 x}{5}-3\right)=\frac{7}{2}$ then the value of $x$ is $\qquad$ -.
A) $\mathbf{- 5}$
B) $\mathbf{- 1 2 . 5}$
C) $\mathbf{1 2 . 5}$
VD) 5

## Solution:

$\frac{1}{5}\left(3 x+\frac{15}{4}\right)-\frac{1}{4}\left(\frac{4 x}{5}-3\right)=\frac{7}{2}$
$\frac{3 x}{5}+\frac{3}{4}-\frac{x}{5}+\frac{3}{4}=\frac{7}{2} \Rightarrow$
$\frac{2 x}{5}+\frac{3}{2}=\frac{7}{2} \Rightarrow \frac{2 x}{5}=2 \Rightarrow x=5$
Answer: D

Q12: Half of $1 \%$ of 60 is one less than what number?
VA) 1.3
B) $\mathbf{- 0 . 7}$
C) 0.6
D) 0.7

## Solution:

$60 \times \frac{1}{100} \times \frac{1}{2}=x-1 \Rightarrow 0.3=x-1 \Rightarrow x=1.3$

Answer: A

Q13: If $\quad a(c-d)-b(c-d)=51$ and $\quad c-d=3$ then $a-b+c-d=$ ?
A) -20
B) 17
VC) 20
D) 48

## Solution:

$a-b+c-d=? \Rightarrow(a-b)(c-d)=51$
$a-b=17 \Rightarrow a-b+c-d=17+3=20$

Answer: C

Q14: Which one of the following cannot be the sum of three consecutive odd integers?
A) 39
B) 51
VC) 78
D) $\mathbf{8 1}$

## Solution:

The sum of three consecutive odd integers can be again odd number. That is why 78 cannot be answer.

Answer: C

Q15: Which one of the following operation results is an even number?

## Solution:

A) $23^{2}+4=529+4=533$
B) $18^{2}+7=324+7=331$
C) $29^{2}+8=841+8=849$

VD) $21^{2}+5=441+5=446$

Q16: If $a=\frac{1}{0.05}, b=\frac{1}{0.02} \quad$ and $\quad c=\frac{3}{0.12}$ then which one of the following is correct?
A) $a<b<c$
B) $c<a<b$
VC) $a<c<b$
D) $c<b<a$

## Solution:

$a=\frac{1}{0.05}=20, b=\frac{1}{0.02}=50 \quad$ and $\quad c=\frac{3}{0.12}=25$
A) $\frac{1}{63}$
B) $\frac{7}{9}$
C) 63
VD) 1

Solution:

$$
\frac{63 \div\left(1-\frac{7}{1-\frac{6}{5}}\right)}{1+\frac{1}{1+\frac{1}{3}}}=\frac{63 \div(1-7 \times(-5))}{1+\frac{3}{4}}=\frac{63}{36} \times \frac{4}{7}=1
$$

Answer: D

Q18: If $\mathbf{8 5 \%}$ of a number is $\mathbf{2 3}$ more than three fifth of that number then the number is $\qquad$ .
A) $\mathbf{2 3}$
B) $\mathbf{4 6}$
VC) 92
D) 115

## Solution:

$\frac{85}{100} x=\frac{3}{5} x+23 \Rightarrow \frac{85}{100} x-\frac{3}{5} x=23 \Rightarrow \frac{85 x-60 x}{100}=23$
$\frac{25 x}{100}=23 \Rightarrow \frac{x}{4}=23 \Rightarrow x=92$

Answer: C

Q19: If $\mathrm{a}=0.3$ and $\mathrm{b}=0.4$ then find $\frac{0.08}{0.2}-\frac{0.12}{0.036}$ in terms of $a$ and $b$ ?
A) $a-b$
B) $\frac{a-b}{a}$
VC) $\frac{a b-1}{a}$
D) $\frac{a-b}{a b}$

## Solution:

$\frac{0.08}{0.2}-\frac{0.12}{0.036}=0.4-\frac{1}{0.3}=b-\frac{1}{a}=\frac{a b-1}{a}$

Answer: C

Q20: If the product of three different prime numbers 130 then what is their sum?
VA) $\mathbf{2 0}$
B) $\mathbf{2 3}$
C) 31
D) 65

## Solution:

$$
2 \times 5 \times 13=130 \Rightarrow 2+5+13=20
$$

Q21: The square of the squarerootoof the square of a positive integer is equal to thessquare of the square of the square of 3 . What is the, integer?
A) $\mathbf{6 5 6 1}$
B) 27
VC) 81
D) 9

## Solution:

$\left(\sqrt{x^{2}}\right)^{2}=\left(\left(3^{2}\right)^{2}\right)^{2} \Rightarrow x^{2}=3^{8} \Rightarrow x=3^{4}=81$
Answer: C

Q22: If there is a rule between the following numbers then which one of the following number stands for the question mark?

VA) 97
B) $\mathbf{5 0}$
C) 27
D) $\mathbf{2 8}$

## Solution:

Rule:
$(5 \times 1+(5-1))=5+4=9 \rightarrow 1 s t \quad$ line
$(9 \times 2+(9-2))=18+7=25 \rightarrow 2 n d \quad$ line
$(25 \times 3+(25-3))=75+22=97 \rightarrow 3 r d \quad$ line

Q23: If the ages of three kids are in the ratio of 3:5:7 and in 10 years the sum of their ages is 135. What are their ages now?
A) $3,5,7$
B) $12,20,28$
VC) $21,35,49$
D) $27,45,63$

Solution: The sum of the ages now $135-3 \times 10=105$. And their ages smallest to biggest is

$$
\frac{3}{15} \times 105=21, \quad \frac{5}{15} \times 105=35, \quad \frac{7}{15} \times 105=49
$$

Answer: C

Q24:
The price of a watch is $\$ 300$ on
Monday. On Tuesday the price is reduced by 10\%. On Wednesday, Tuesday's price is increased by $\mathbf{1 0 \%}$. What is the price of the watch on Wednesday?
A) $\$ 290$
C) $\$ 310$
D) $\$ 390$
V) $\$ 297$

## Solution:

Tuesday: $\$ 3 \not 0 \sigma \times \frac{90}{1 \not 0 \sigma}=\$ 270$
Wednesday : $\$ 27 \not \varnothing \times \frac{11 \not 0}{1 \not \varnothing \sigma}=\$ 297$
Answer: B

Q25: In the following table, if each number which is in the middle is average of previous and next number then $x+y+z=$ ?

| 7 | $x$ | 15 | 16 | $y$ | $z$ | 53 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |

$$
\begin{aligned}
& x=\frac{7+15}{2}=\frac{22}{2}=11, \\
& \frac{15+y}{2}=16 \Rightarrow 15+y=32 \Rightarrow y=1
\end{aligned}
$$

## Solution:

$$
\begin{aligned}
& z=\frac{17+53}{2}=\frac{70}{2}=35 \Rightarrow \\
& x+y+z=11+17+35=63
\end{aligned}
$$

Answer: B

Q26: The pie chart represents the amount spent on different games by a school administration in a year. If the money spent on football is $\$ 175$, then what is the total amount spent on games?

Amounts spent on different games

VA) $\mathbf{\$ 1 8 0 0}$
B) $\mathbf{\$ 1 0 5 0}$
C) $\mathbf{\$ 9 0 0}$
D) $\$ 500$

Solution: $\frac{35}{360} x=175 \Rightarrow x=\$ 1800$
Answer: A

Q27: Ahmad mixes 1 litre of 1\% butterfat milk, 2 litres of $\mathbf{2 \%}$ butterfat milk, 4 litres of 4\% butterfat milk and 7 litres of $\mathbf{7 \%}$ butterfat milk. What percentage of the resulting fourteen litres of milk is butterfat?
A) 38
V B) 63
C) $\mathbf{7 2}$
D) 91

Solution:
$\frac{1 \times \frac{1}{100}+2 \times \frac{2}{100}+4 \times \frac{4}{100}+7 \times \frac{7}{100}}{14} \times 100 \%$
$=\frac{(1+4+16+49)}{14 \times 100} \times 100 \%$
$=\frac{70}{14} \%=5 \%$
Answer: D

Q28: If the fraction $\frac{55}{13}$ can be expressed as $4+\frac{1}{x+\frac{1}{y}}$ then what is $\mathbf{x}+\mathbf{y} ?$
A) 3
B) 4
$\sqrt{C}) 7$
D) 13

Solution:
$4+\frac{1}{x+\frac{1}{y}}=\frac{55}{13} \Rightarrow 4+\frac{1}{x+\frac{1}{y}}=4+\frac{3}{13} \Rightarrow$
$x+\frac{1}{y}=\frac{13}{3}=4+\frac{1}{3} \Rightarrow x+y=4+3=7$
Answer: C

Q29: In the following bar charts, numbers of candy flavors are given. What is the percentage of lime flavors to whole candies?

Candy Flawors

A) $\mathbf{1 0 \%}$
B) $\mathbf{1 5 \%}$
VC) $\mathbf{2 5 \%}$
D) $\mathbf{3 0 \%}$

Solution: $\frac{4 \sigma}{160} \times 100 \%=\frac{1}{4} \times 100 \%=25 \%$
Answer: C

Q30: A man loses 1/4th of his money, then wins Rs.15, loses 1/4th of what he has and wins Rs. 22 and finds that he has exactly what he had at the beginning. The amount which he had originally was $\qquad$ .
A) Rs. 19
B) Rs. 38
VC) Rs. 76
D) Rs. 133

## Solution:

$$
\begin{aligned}
& x-\frac{x}{4}=\frac{3 x}{4} \Rightarrow\left(\frac{3 x}{4}+15\right) \frac{3}{4}+22=x \Rightarrow \\
& \frac{45}{4}+22=x-\frac{9 x}{16} \Rightarrow \frac{133}{4}=\frac{19 x}{16} \Rightarrow \\
& x=19 \times 4=\text { Rs. } 76
\end{aligned}
$$

Q31: In a jar of red, green, and blue marbles, all but 15 are red marbles, all but 21 are green, and all but 14 are blue. How many marbles are there in the jar?
VA) $\mathbf{2 5}$
B) $\mathbf{2 9}$
C) 35
D) 50

## Solution:

$G+B=15, R+B=21, R+G=14 \Rightarrow$
$2(R+G+B)=15+21+14 \Rightarrow$
$2(R+G+B)=50$
$R+G+B=25$
Answer: A

Q32: Hassan helped his neighbor $3 \frac{1}{4}$ hours on Monday, 55 minutes on Tuesday, from 8:10 to 10:45 on Wednesday morning, and a half-hour on Friday. If he is paid $\mathbf{\$ 4}$ per hour then how much did he earn for the week?
A) $\mathbf{\$ 2 8}$
VB) \$29
C) $\$ 56$
D) $\mathbf{\$ 5 8}$

## Solution:

$3 h r s 15 \min +55 \min +2 h r s 35 \min +30 \min =$
$7 h r s 15 \min \times 4=28+1=\$ 29$
Answer: B

Q33: The following pie chart shows that each student in a group of 1080 was asked about their favourite subjects from Science, Maths, History and English. How many students' favourite subjects is Maths?

A) $\mathbf{1 8 0}$
B) $\mathbf{2 4 0}$
VC) 315
D) $\mathbf{3 4 5}$

## Solution:

$4 x+7 x+115+80=360 \Rightarrow 11 x=165 \Rightarrow x=15$

$$
\frac{105}{360} \times 1080=105 \times 3=315
$$

Answer: C

Q34: Everyday, Ali reads the book whose number of the pages is half of the pages of the book previous day. If he read total 105 pages of the book in four days. How many pages did he read on $3^{\text {rd }}$ day?
A) 7
VB) 14
C) 15
D) $\mathbf{2 8}$

## Solution:

$x+\frac{x}{2}+\frac{x}{4}+\frac{x}{8}=105 \Rightarrow \frac{8 x+4 x+2 x+x}{8}=105$
$\frac{1 / 5 x}{8}=105 \Rightarrow x=8 \times 7=56 \Rightarrow \frac{56}{4}=14$

Answer:

Q35: A train traveling from town $A$ to town $B$ arrives 9 minutes late if it travels at $\mathbf{4 5 k m} / \mathrm{hr}$. If it travels at $\mathbf{3 6} \mathbf{~ k m} / \mathbf{h r}$ it arrives $\mathbf{3 9}$ minutes late. What is the distance between $A$ and $B$ ?
A) $\mathbf{3 0 k m}$
B) $\mathbf{4 5} \mathrm{km}$
VC) $\mathbf{9 0 k m}$
D) $\mathbf{9 6 k m}$

## Solution:

$\frac{x}{45}-\frac{9}{60}=\frac{x}{36}-\frac{39}{60} \Rightarrow \frac{x}{36}-\frac{x}{45}=\frac{39}{60}-\frac{9}{60}$
$\frac{5 x-4 x}{180}=\frac{\not 20}{\frac{1}{60}}=\frac{1}{2} \Rightarrow \frac{x}{180}=\frac{1}{2} \Rightarrow x=90 \mathrm{~km}$
Answer: C

Q36: In an animal farm, $\frac{3}{10}$ of the animals are sheep, $\frac{1}{8}$ of the animals are cows and remaining animals are chickens. If the total number of animals is between 150 and 200, then how many chickens are there?
A) 68
B) $\mathbf{8 0}$
VC) 92
D) $\mathbf{1 3 8}$

## Solution:

$$
\text { Sheep : } \frac{3 x}{10} \text {,Cows: } \frac{x}{8} \text {,Chicken: } x-\left(\frac{3 x}{10}+\frac{x}{8}\right)
$$

Chicken: $x-\frac{12 x+5 x}{40}=x-\frac{17 x}{40}=\frac{40 x-17 x}{40}=\frac{23 x}{40}$
if $x=160$ then $\frac{23 \times 160}{\frac{4}{46}}=23 \times 4=92$
Answer: C

Q37: One fourth of the birds in acage ane blue. 45 of the 130 females are blue, while $20 \%$ of the males are blue. How many birds ane there in the cage?
A) $\mathbf{1 2 0}$
B) $\mathbf{1 3 0}$
C) $\mathbf{2 5 0}$
VD) $\mathbf{3 8 0}$

## Solution:

$M: x \quad$ and $\quad$ total $: y \quad, x+130=y \Rightarrow x=y-130$

$$
\begin{aligned}
& \frac{21 / 0 x}{100}+45=\frac{y}{4} \Rightarrow \frac{y}{4}-\frac{x}{5}=45 \Rightarrow \frac{y}{4}-\frac{y-130}{5}=45 \Rightarrow \\
& \frac{y+520}{20}=45 \Rightarrow y=900-520=380
\end{aligned}
$$

Answer: D

Q38: If $\angle \mathrm{AOB}=40^{\circ}, \angle \mathrm{COD}=2 \mathrm{x}-10^{\circ}$ and $\angle \mathrm{FOE}=3 \mathrm{x}+5^{0}$ then what is the value of $\angle \mathrm{BOC} ?$

A) $29^{\circ}$
B) $\mathbf{4 4}^{0}$
C) $65^{\circ}$
VD) $\mathbf{9 2}^{\mathbf{0}}$

## Solution:

$3 x+5+40+2 x-10=180 \Rightarrow 5 x+35=180$
$5 x=145 \Rightarrow x=29 \Rightarrow \angle B O C=3 \times 29+5=92$

Q39: If the areas of three different faces of a cuboid are $20 \mathrm{~cm}^{2}, 36 \mathrm{~cm}^{2}$ and $45 \mathrm{~cm}^{2}$ then what is the volume of the cuboid in $\mathrm{cm}^{3}$ ?
A) $\mathbf{4 5} \mathrm{cm}^{3}$
B) $\mathbf{9 0} \mathrm{cm}^{\mathbf{3}}$
VC) $180 \mathrm{~cm}^{\mathbf{3}}$
D) $\mathbf{2 7 0} \mathrm{cm}^{\mathbf{3}}$

## Solution:

$b \times h=20=4 \times 5, \quad b \times l=36=4 \times 9$,
$h \times l=45=5 \times 9 \Rightarrow l \times b \times h=9 \times 4 \times 5=180 \mathrm{~cm}^{3}$

Answer: C

Q40: A 7 metre wide road surrounds a circular park. If the circumference of the park is $\mathbf{4 4} \mathbf{~ m}$, then the area of the road is $\qquad$ . $\quad\left(\pi=\frac{22}{7}\right)$

A) $231 \mathrm{~cm}^{2}$
VB) $\mathbf{4 6 2} \mathrm{cm}^{\mathbf{2}}$
C) $616 \mathrm{~cm}^{2}$
D) $\mathbf{1 2 3 2} \mathrm{cm}^{\mathbf{2}}$

## Solution:

$2 \pi r=44 \Rightarrow 1 / 2 \times \frac{122}{7} \times r=\not 44 \Rightarrow r=7$
$\pi R^{2}-\pi r^{2}=\pi\left(R^{2}-r^{2}\right)=\pi(R-r)(R-r)$
$\pi(14-7)(14+7)=\frac{22}{\not \subset} \times \not \subset \times 21=22 \times 21=462 \mathrm{~cm}^{2}$

Answer: B

Q41: In a factory, there are 2880 woorkets. If
$\frac{4}{5}$ of the male workers are married the
female workers then how many male workersare there in this factory?
A) $\mathbf{9 0 0}$
VB) 1200
C) $\mathbf{1 5 0 0}$
D) 1800

Solution:
$\frac{4}{5} M=\frac{4}{7} F \Rightarrow F=\frac{7}{5} M \Rightarrow M+\frac{7}{5} M=2880$
$\frac{1 / 2 M}{5}=2880 \Rightarrow M=5 \times 240=1200$
Answer: B

Q42: The figure shows a trapezium and a triangle. The area of the figure in $\mathrm{cm}^{\mathbf{2}}$ is $\qquad$

A) $\mathbf{6 9} \mathrm{cm}^{2}$
VB) $\mathbf{9 4} \mathrm{cm}^{\mathbf{2}}$
C) $\mathbf{1 1 0} \mathrm{cm}^{2}$
D) $\mathbf{1 4 3} \mathbf{~ c m}^{\mathbf{2}}$

## Solution:

Area of Triangle + Area of Trapezium $=$

$$
\frac{1}{2} b h+\frac{1}{2}(a+b) h=\frac{1}{2}[10 \times 5+(10+13) \times 6]=
$$

$$
\frac{1}{2}(50+23 \times 6)=\frac{1}{2}(50+138)=\frac{188}{2}=94 \mathrm{~cm}^{2}
$$

Q43: What is the value of $x+y$ in the figure shown?

A) $\mathbf{8 0}{ }^{\circ}$
VB) $\mathbf{9 0}^{\circ}$
C) $180^{\circ}$
D) $\mathbf{3 6 0}{ }^{\circ}$

## Solution:

sum of the angles of quadrilateralABCD and sum of the angles of quadrilateralEBCD is $(y+30+80+120+80)+(40+x+120+80+80)=720$

$$
y+310+x+320=720 \Rightarrow x+y=720-630=90^{\circ}
$$

Answer: B

Q44: If one side of the square is 18 cm in the following figure then what is the total area of the figure? $(\pi=3)$


## Solution:

$$
\text { Area of Circle }+ \text { Area of Square? }
$$

$$
\pi r^{2}+l^{2}=3 \times 9^{2}+18^{2}=243+324=567 \mathrm{~cm}^{2}
$$

Answer: C

Q45: If $\mathrm{AB} / / \mathrm{CD}, \mathrm{BF} / / \mathrm{CE}$ and $\angle \mathrm{ABF}=150^{\circ}$
then what is the value of angle $x$ ?

VA) $\mathbf{3 0}^{\mathbf{0}}$
B) $\mathbf{4 0}{ }^{\circ}$
C) $\mathbf{5 0}{ }^{\circ}$
D) $60^{\circ}$

## Solution:



Answer: A

Q46: Initially, a spinner points west. Aqil moves it clockwise $3 \frac{1}{4}$ revolutions and then anticlockwise $5 \frac{3}{4}$ revolutions. In what direction does the spinner point after the two moves?

A) North
VB) East
C) South
D) Northwest

Solution: After clockwise $3 \frac{1}{4}$ revolutions pointer will show $N$. After anti-clockwise $5 \frac{3}{4}$ revolutions pointer will show E.

Answer: B

Q47: In the following figure, if $A B C D$ and DEFG are identical squares and angle ECD is $70^{\circ}$ then what is the value of angle $y$ (angle ADG)?

A) $70^{\circ}$
VB) $\mathbf{1 4 0}^{\mathbf{0}}$
C) $\mathbf{2 1 0}{ }^{\circ}$
D) $\mathbf{2 8 0}{ }^{\circ}$

## Solution:



Answer: B

Q48: How many small cuboids with the sides $10 \mathrm{~cm}, 15 \mathrm{~cm}$ and 20 cm can be placed into the following cuboid with the sides $40 \mathrm{~cm}, 60 \mathrm{~cm}$ and 80 cm ?

A) 240
B) 128
VC) 64
D) $\mathbf{3 2}$

Solution: $\frac{V_{b i g}}{V_{\text {small }}}=\frac{40 \times 60 \times 80}{10 \times 15 \times 20}=4 \times 4 \times 4=64$
Answer: C

Q49: A 6 m by 8 m rectangle overlaps a 7 m by 9 m rectangle so that they share two sides and a vertex as shown. In square meters, what is the total area of the rectangles not shaded?

A) $\mathbf{1 1 1} \mathrm{m}^{\mathbf{2}}$
B) $\mathbf{6 9} \mathrm{m}^{\mathbf{2}}$
C) $\mathbf{4 2} \mathrm{m}^{\mathbf{2}}$
VD) $\mathbf{2 7} \mathrm{m}^{\mathbf{2}}$

## Solution:



Area of unshaded region $=1 \times 6+3 \times 7=27 \mathrm{~m}^{2}$

Answer: D

Q50: Yaseen bought paper sheets for Rs. 6800 and spent Rs. 550 on transport. Then he paid to his worker Rs. 650 to make 360 boxes by using paper sheets. And if he sold each box for Rs. 25 then what is his percentage profit overall?
A) $\mathbf{1 0 \%}$
VB) 12.5\%
C) $\mathbf{2 0 \%}$
D) $\mathbf{2 5 \%}$

## Solution:

Pr ofit $=360 \times 25-(6800+550+650)$

$$
=9000-8000=R s .1000
$$

Percentage $\quad \operatorname{Pr}$ ofit $=\frac{1000}{\frac{8000}{8}} \times 100 \%$
$=\frac{100}{8} \%=12.5 \%$
Answer: B

