

Q1: Which of the following two numbers are equal?

I: $(12+16) \div 7$

II: $2^2 + 3^2$

III: $(48 \div 4) \times \frac{1}{3}$

VI: $7 \times 2 \div 2$

A) I – II

B) I – III

C) II – VI

D) II – III

Solution:

I: $(12+16) \div 7 = 28 \div 7 = 4$

II: $2^2 + 3^2 = 4 + 9 = 13$

III: $(48 \div 4) \times \frac{1}{3} = 12 \times \frac{1}{3} = \frac{12}{3} = 4$

VI: $7 \times 2 \div 2 = 14 \div 2 = 7$

First and third are equal

Answer: B

Q2: Simplify $\frac{ISM OISM O}{ISM O}$

A) 1001

B) 10001

C) 11

D) 101

Solution:

$$\begin{array}{r} \frac{ISM OISM O}{ISM O} = ISM O \overline{) \begin{array}{r} 10001 \\ ISM OISM O \\ +ISM O \\ \hline 0000ISM O \\ +ISM O \\ \hline 0 \end{array}} \end{array}$$

Answer: B

Q3: How many times 0.02 is equal to 0.4

A) 0.5

B) 10

C) 20

D) 40

Solution:

We can divide 0.4 by 0.02 to find the answer

$$\frac{0.4}{0.02} = \frac{\frac{4}{10}}{\frac{2}{100}} = \frac{4}{10} \times \frac{100}{2} = 2 \times 10 = 20$$

Answer: C

Q4: Which of the following is the numerical form of "seven billion seventy thousand seven "

A) 7077007

B) 7070007

C) 7700007

D) 7007007

Solution:

"seven billion seventy thousand seven " = 7070007

Answer: B

Q5: If today is Saturday, which day will be there after 145 days

A) Sunday

B) Friday

C) Saturday

D) Thursday

Solution:

After every seven days the day will be same as it is today (Saturday)

So we can write 145 as 140+5

140 is the multiple of 7, so the day after 140 days will be again Saturday

Now we have 5 days. Sunday, Monday, Tuesday, Wednesday, Thursday and the next day is Friday

Answer: B

Q6: $\frac{1}{16} \times \left(\frac{1}{2} + \frac{3}{2} + \frac{5}{2} + \frac{7}{2} \right) = ?$

- A) 2 B) 0.5 C) 1 D) 0.8

Solution:

$$\frac{1}{16} \times \left(\frac{1}{2} + \frac{3}{2} + \frac{5}{2} + \frac{7}{2} \right) = \frac{1}{16} \times \left(\frac{1+3+5+7}{2} \right) = \frac{1}{16} \times \frac{16}{2} = \frac{1}{2}$$

$$\frac{1}{2} = 0.5$$

Answer: B

Q7: $\left(1 - \frac{1}{2} \right) + \left(1 - \frac{1}{3} \right) + \left(1 - \frac{1}{4} \right) = ?$

- A) $\frac{25}{12}$ B) $\frac{19}{12}$ C) $\frac{21}{12}$ D) $\frac{23}{12}$

Solution:

$$\left(1 - \frac{1}{2} \right) + \left(1 - \frac{1}{3} \right) + \left(1 - \frac{1}{4} \right)$$

$$= \frac{2-1}{2} + \frac{3-1}{3} + \frac{4-1}{4}$$

$$= \frac{1}{2} + \frac{2}{3} + \frac{3}{4} = \frac{6+8+9}{12} = \frac{23}{12}$$

Answer: D

Q8: If one the angles of triangle is 45° , which of the following can be sum of other two angles?

- A) 105° B) 135° C) 145° D) 155°

Solution:

Sum of angles of a triangle is 180° . If one of them is 45° so sum of rest of them will be $180^\circ - 45^\circ = 135^\circ$

Answer: B

Q9: $0.2 + 0.8 \times 3 - 0.9 = ?$

- A) 1.7 B) 1.6 C) 1.5 D) 1.4

Solution:

$$0.2 + \underset{\substack{\boxed{0.8} \times 3 \\ \text{Multiply}}}{0.8 \times 3} - 0.9$$

$$= 0.2 + 2.4 - 0.9$$

$$= 2.6 - 0.9 = 1.7$$

Answer: A

Q10: Which of the following is false?

- A) $100\% = 1$ B) $25\% + 65\% = 90\%$
 C) $25\% \text{ of } 1000 = 250$ D) $\frac{20}{50} + \frac{25}{50} = 45\%$

Solution:

- A) $100\% = \frac{100}{100} = 1$ True
 B) $25\% + 65\% = \frac{25}{100} + \frac{65}{100} = \frac{90}{100} = 90\%$ True
 C) $25\% \text{ of } 1000 = \frac{25}{100} \times 1000 = 25 \times 10 = 250$ True
 D) $\frac{20}{50} + \frac{25}{50} = \frac{20+25}{50} = \frac{45}{50} = \frac{90}{100} = 90\%$ False

Answer: D

Q11: Ahmed is 12 years old and the HCF of Ahmed's age and his father's age is 6, which of the following can be the age of Ahmed's father?

- A) 45 B) 42 C) 58 D) 44

Solution:

When we check the options we will see that the HCF of only 12 and 42 is 6

So answer is 42

Answer: B

Q12: Ali bought 4 pens, 6 books and 10 notebooks. The prices of pen, book and notebook is Rs. 120, Rs. 380 and Rs. 265 respectively. How much did Ali pay for all.

- A) Rs.4270 B) Rs.3890
C) Rs.5410 D) Rs.5540

Solution:

The price of pens is $4 \times \text{Rs. } 120 = \text{Rs. } 480$

The price of books is $6 \times \text{Rs. } 380 = \text{Rs. } 2280$

The price of notebooks is $10 \times \text{Rs. } 265 = \text{Rs. } 2650$

Ali paid $\text{Rs. } 480 + \text{Rs. } 2280 + \text{Rs. } 2650 = \text{Rs. } 5410$

Answer: C

Q13: An apartment complex contains five buildings with 7 floors each. Every floor has 4 apartments, and each apartment has 9 doors.

How many doors are in the entire apartment complex?

Solution:

There are five buildings with 7 floors

Total floors: $5 \times 7 = 35$

There are 4 apartments in each floor

Total apartments: $4 \times 35 = 140$

There are 9 doors in each apartment

Total doors: $140 \times 9 = 1260$

- A) 1240 B) 1260 C) 1140 D) 1190

Answer: B

Q14: The prices of tickets at a cinema are as follows:

Adult: Rs. 120

Student: Rs. 80

On a particular evening the cinema sold 352 student tickets and 865 adult tickets.

How much money did the cinema receive?

- A) 123450 B) 131960
C) 211360 D) 143560

Solution:

$352 \times \text{Rs. } 80 + 865 \times \text{Rs. } 120 = \text{Rs. } 131960$

Answer: B

Q15: Farrukh checked a division operation as follows:

$$122 \times 13 = 1586$$

$$1586 + 43 = 1629$$

What was the division operation?

- A) $1629 \div 122$ B) $1586 \div 13$
C) $1629 \div 43$ D) None of these

Solution:

Remainder is 43

1629 divided by 122 or by 13

So answer is $1629:122$

Answer: A

Q16: Which statement is true about this division operation?

$$\begin{array}{r} 62 \\ 125 \overline{)7849} \\ \underline{2345} \\ 99 \end{array}$$

- A) Remainder is 0 B) Quotient is 62
 C) Divisor is 7849 D) Dividend is 2345

Solution:

- A) Remainder is 99 B) Quotient is 62
 C) Divisor is 125 D) Dividend is 7849

So only B is true, Quotient is 62

There is an example below

$$\begin{array}{r} \text{divisor} \rightarrow 9 \overline{)81} \\ \underline{81} \\ 0 \end{array}$$

← quotient
← dividend
← remainder

Answer: B

Q17: If $I = 12 + 4 \times 8$, $S = (0.2 + 0.5) \times 100$,
 $M = 1^2 + 2^2 + 3^2$ and $O = 20 - (4 - 12)$

What is the value of $I + S + M + O$

- A) 144 B) 156 C) 180 D) 196

Solution:

$$I = 12 + \underset{\substack{\square \square \\ \text{First}}}{4} \times 8 = 12 + 32 = 44$$

$$S = (\underset{\substack{\square \square \square \square \square \square \\ \text{First}}}{0.2 + 0.5}) \times 100 = 0.7 \times 100 = 70$$

$$M = 1^2 + 2^2 + 3^2 = 1 + 4 + 9 = 14$$

$$O = 20 - (\underset{\substack{\square \square \square \square \\ \text{First}}}{4 - 12}) = 20 - (-8) = 20 + 8 = 28$$

$$I + S + M + O = 44 + 70 + 14 + 28 = 156$$

Answer: B

Q18: If $a = 3 \text{ hours}$, $b = 245 \text{ minutes}$ and $c = 1024 \text{ seconds}$

How many seconds are there in $a + b + c$

- A) 23456 B) 26524
 C) 25624 D) 26600

Solution:

$$a = 3 \text{ hours} = 3 \times 60 \times 60 \text{ Seconds} = 10800 \text{ Seconds}$$

$$b = 245 \text{ minutes} = 245 \times 60 \text{ Seconds} = 14700 \text{ Seconds}$$

$$c = 1024 \text{ seconds}$$

$$a + b + c = 10800 + 14700 + 1024 = 26524 \text{ Seconds}$$

Answer: B

Q19: Evaluate $\frac{2013 + 2013 + 2013}{2 + 0 + 1 + 3} + (2 \times 0 \times 1 \times 3)$

- A) $\frac{2013}{2} + 6$ B) $\frac{2013}{2}$
 C) $2013 + 6$ D) 6039

Solution:

$$\begin{aligned} & \frac{2013 + 2013 + 2013}{2 + 0 + 1 + 3} + (2 \times 0 \times 1 \times 3) \\ &= \frac{\cancel{2} \times 2013}{\cancel{2}} + 0 = \frac{2013}{2} \end{aligned}$$

Answer: B

Q20: At a bus terminal, the buses leave with a frequency of one bus every twenty minutes. The first bus leaves at 9:20

How many buses leave the terminal between 9:20 and 18:00?

- A) 23 B) 24 C) 25 D) 26

Solution:

..... 9:40, 10:00, (2)

10:20, 10:40, 11:00 (3)

11:20, 11:40, 12:00 (3)

..... 13:00 (3)

..... 14:00 (3)

..... 15:00 (3)

..... 16:00 (3)

..... 17:00 (3)

17:20, 17:40 (2)

Total 25 buses leave the terminal between 9:20 and 18:00.

Answer: C

Q21: Which decimal number below is the closest to 5?

- A) 4.04 B) 4.004
 C) 4.044 D) 4.040

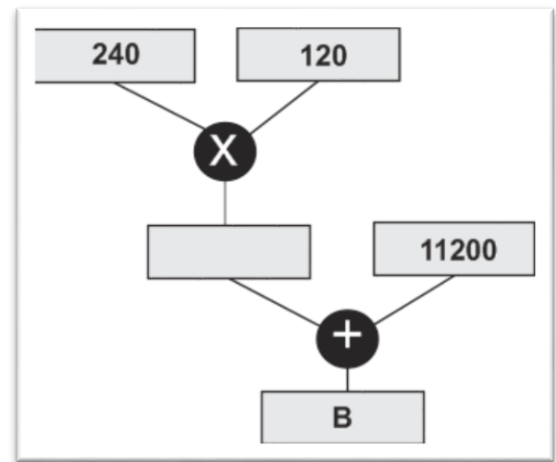
Solution:

All the numbers are less than 5, if we order them as $4.044 > 4.04 = 4.040 > 4.004$

So the 5 is closest the 4.044.

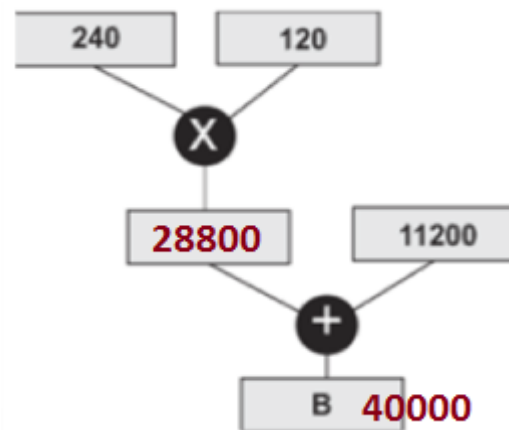
Answer: C

Q22: Complete to flow chart to find B



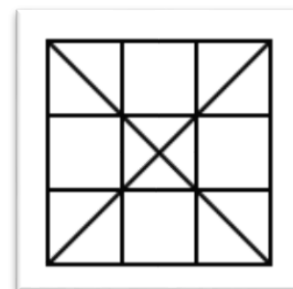
- A) 48000 B) 40000
 C) 42000 D) 42400

Solution:



Answer: B

Q23: How many triangles are in the figure?



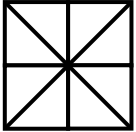
- A) 24 B) 30 C) 32 D) None of these

Solution:

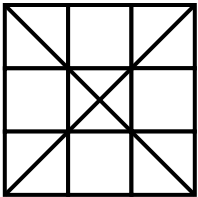
Let's check the smallest square in the figure



There are 8 triangles in the square above



There are 16 triangles in the square above



When we increase the part of side of square the number of triangles becomes double. So there are 32 triangles in the square above.

Answer: C

Q24: Evaluate $1\frac{1}{2} + 2\frac{2}{3} + 3\frac{3}{4}$

- A) $2\frac{11}{12}$ B) $3\frac{11}{12}$ C) $5\frac{11}{12}$ D) $7\frac{11}{12}$

Solution:

$$1\frac{1}{2} + 2\frac{2}{3} + 3\frac{3}{4} = \frac{3}{2} + \frac{8}{3} + \frac{15}{4} = \frac{18+32+45}{12} = \frac{95}{12} = 7\frac{11}{12}$$

Answer: D

Q25: Find the next number in the sequence

$$2 \times 1 + 3 \times 4 + 5 \times 9 + 7 \times 16 + 11 \times 25 + \dots$$

- A) 13×25 B) 11×36
 C) 13×36 D) 11×25

Solution:

$$2 \times 1 + 3 \times 4 + 5 \times 9 + 7 \times 16 + 11 \times 25 + \dots$$

The first factor in each term is a prime number so the prime number which comes after 11 is 13

The second factor in each term is square of a natural number so the next one is 36

The next number in sequence is 13×36

Answer: C

Q26: Which of the following number is equivalent

to $\frac{3}{7}$

- A) $\frac{381}{889}$ B) $\frac{141}{187}$ C) $\frac{213}{678}$ D) $\frac{332}{772}$

Solution:

Let's simplify all $\frac{381^{127}}{889^{127}} = \frac{3}{7}$

Answer: A

Q27: 150000, 15000, 150,....., ?

A number pattern is shown above. What is the number shown by the question mark?

- A) 15 B) 1.5 C) 15.0 D) 1.55

Solution:

We can find the next term in sequence by dividing each term by 100

$$\frac{150}{100} = 1.5$$

Answer: B

Q28: Which of the following degree is equal to sum of interior angles of triangle?

- A) $((9-6) \times 45)^0$ B) $(6^2 \times (10 \div 2))^0$
 C) $(18 \times 11)^0$ D) $(1800 \div 100)^0$

Solution:

Sum of the interior angles of triangle is 180° . Let's see which option is equal to 180°

- A) $\left(\begin{array}{c} (9-6) \times 45 \\ \text{First} \end{array} \right)^0 = (3 \times 45)^\circ = 135^\circ$
 B) $(6^2 \times (10 \div 2))^0 = (36 \times 5)^\circ = 180^\circ$
 C) $(18 \times 11)^0 = 198^\circ$
 D) $(1800 \div 100)^0 = 18^\circ$

Answer: B

Q29: Each monkey in a zoo receives 24 bananas. There are 26 monkeys and 17 bananas are left over. How many bananas are there in total?

- A) 1032 B) 641 C) 971 D) 884

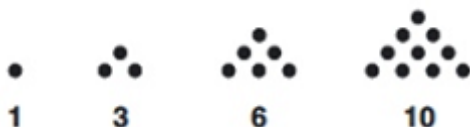
Solution:

If each monkey receives 24 bananas, 26 monkeys will receive $24 \times 26 = 624$ bananas and 17 bananas are left $624 + 17 = 641$

Answer: B

Q30: Information: The numbers which can be written as the sum of the integers from 1 to n for $n=1,2,3,4,\dots$ are called triangular numbers.

Example: $1+2+3=6$ or $1+2+3+4=10$



The first four triangular numbers are shown above. What is the eleventh triangular number?

Solution:

$$1+2+3+4+\dots+11 = 11 \times (11+2) / 2 = 66$$

Answer: D

- A) 45 B) 55 C) 60 D) 66

Q31: $10000 + 1000 + 100 + 10 = 10 \times \boxed{\dots\dots\dots}$

What is the unknown number in the operation above?

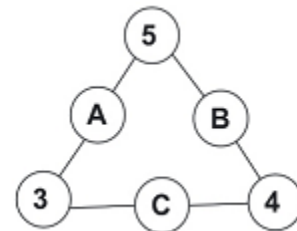
- A) 114 B) 1110
 C) 111 D) 1111

Solution:

$$10000 + 1000 + 100 + 10 = 11110 = \boxed{1111} \times 10$$

Answer: D

Q32: In the figure below, the product of the three numbers in each side of the triangle is 180. What are A, B and C?



- A) $A=9, B=15, C=12$ B) $A=12, B=9, C=15$
 C) $A=15, B=12, C=9$ D) $A=9, B=12, C=15$

Solution:

$$3 \times A \times 5 = 180 \qquad 5 \times B \times 4 = 180$$

For A: $A = \frac{180}{15} = 12$ For B: $A = \frac{180}{20} = 9$

$$3 \times C \times 4 = 180$$

For C: $A = \frac{180}{12} = 15$ **A=12, B=9, C=15**

Answer: B

Q33: When Hamid multiplies two numbers together, the result is one of the original numbers. Which of the following numbers is always one of Hamid's numbers?

- A) 1 B) 13 C) 23 D) 43

Solution:

When we multiply any number by one, result does not change. So one of the original number of Hamid must be 1.

Answer: A

Q34: Which expression below has a different value from the others?

- A) $(4+4) \div 4$ B) $(5 \times 6) \div 15$
 C) $(6+6) \div 6$ D) $(6 \div 6) + 6$

Solution:

A) $\begin{array}{cccc} \square & \square & \square & \square \\ \text{First} & & & \end{array} \div 4$
 $= 8 \div 4 = 2$

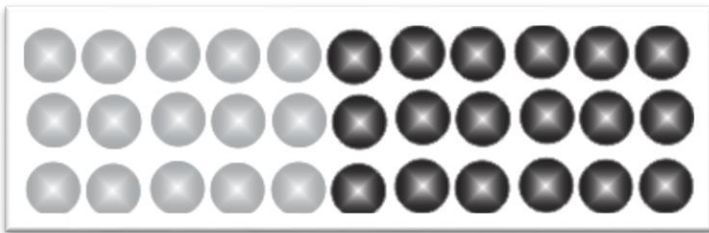
B) $\begin{array}{cccc} \square & \square & \square & \square \\ \text{First} & & & \end{array} \div 15$
 $= 30 \div 15 = 2$

C) $\begin{array}{cccc} \square & \square & \square & \square \\ \text{First} & & & \end{array} \div 6$
 $= 12 \div 6 = 2$

D) $\begin{array}{cccc} \square & \square & \square & \square \\ \text{First} & & & \end{array} + 6$
 $1 + 6 = 7$

Answer: D

Q35: Which expression below corresponds to the number of marbles below



- A) $3 \times (5+6)$ B) $3 + (5 \times 6)$
 C) $5 \times (3+6)$ D) $6 \times (5+3)$

Solution:

There are 5 white and 6 black marbles in each row (5+6)

There are 3 rows so $3 \times (5+6)$

Answer: A

Q36: A cat can eat 18 kidneys in a day. How many kidneys can the same cat eat in 6 hours?

- A) 4.5 B) 4 C) 5 D) 5.5

Solution:

There are 24 hours in a day. A cat can eat $\frac{18}{24}$ kidneys in one hours. The same cat can eat $\frac{18}{24} \times 6$ kidneys in 6 hours

$$\frac{18}{24} \times 6 = \frac{18^{\cancel{2}}}{4^{\cancel{2}}} = \frac{9}{2} = 4.5$$

Answer: A

Q37: Which expression below results in an odd number?

- A) $(5+5) \times 2$ B) $(2 \times 9) \div 3$
 C) $(45 \div 9) \times 4$ D) $(27 \div 3) + 4$

Solution:

A) $\begin{array}{cccc} \square & \square & \square & \square \\ \text{First} & & & \end{array} \times 2$
 $= 10 \times 2 = 20$ (Even)

B) $\begin{array}{cccc} \square & \square & \square & \square \\ \text{First} & & & \end{array} \div 3$
 $= 18 \div 3 = 6$ (Even)

C) $\begin{array}{cccc} \square & \square & \square & \square \\ \text{First} & & & \end{array} \times 4$
 $= 5 \times 4 = 20$ (Even)

D) $\begin{array}{cccc} \square & \square & \square & \square \\ \text{First} & & & \end{array} + 4$
 $= 9 + 4 = 13$ (Odd)

Answer: D

Q38: $(A+1258) \div 7 = 256$

In the above equation, what is the value of A?

- A) 534 B) 645 C) 723 D) 824

Solution:

$$\begin{aligned} (A+1258) \div 7 &= 256 \\ \Rightarrow A+1258 &= 256 \times 7 \\ \Rightarrow A+1258 &= 1792 \\ \Rightarrow A &= 1792 - 1258 = 534 \end{aligned}$$

Answer: A

Q39:

$$(1+0.1+0.01+0.001) - (4.44 - 0.04 - 0.4 - 4) = ?$$

- A) 1.111 B) 1.001 C) 4.01 D) 4.04

Solution:

$$\begin{aligned} (1+0.1+0.01+0.001) - (4.44 - 0.04 - 0.4 - 4) \\ \Rightarrow 4.44 - 0.04 - 0.4 - 4 = 0 \\ \Rightarrow 1+0.1+0.01+0.001 = 1.111 \end{aligned}$$

Answer: A

Q40: Which mixed number does the figure show?



- A) $2\frac{5}{9}$ B) $3\frac{5}{9}$ C) $3\frac{4}{9}$ D) $3\frac{1}{9}$

Solution:

There are 3 whole squares and 5 parts of 9 parts of a whole square

We can express it as a mixed number as $3\frac{5}{9}$

Answer: B

Q41: 12 oranges are shared equally among five friends. How many oranges does each friend get?

- A) $2\frac{1}{5}$ B) $2\frac{2}{5}$
C) $1\frac{1}{4}$ D) $1\frac{1}{5}$

Solution:

We can share 12 oranges among five people by

dividing 12 by 5; $\frac{12}{5} = 2\frac{2}{5}$

Answer: B

Q42: $\frac{7}{4} = \frac{x}{12}$, find the value of x

- A) 28 B) 7 C) 14 D) 21

Solution:

$$\begin{aligned} \frac{7}{4} = \frac{x}{12} &\Rightarrow \frac{7}{\cancel{4}^4} = \frac{x}{\cancel{12}^4} \Rightarrow \frac{7}{1} = \frac{x}{3} \Rightarrow 3 \times 7 = x \\ x &= 21 \end{aligned}$$

Answer: D

Q43: Write $\frac{734}{10000}$ in decimal form

- A) 0.734 B) 7.34 C) 0.0734 D) 73.4

Solution:

$$\frac{734}{10000} = 0.\overset{\boxed{0}}{\boxed{0}}\overset{\boxed{7}}{\boxed{3}}\overset{\boxed{4}}{\boxed{4}}$$

4 digits

4 zeros

Answer: C

Q44: How many of the below mentioned equations are true?

$$12\frac{33}{100} = 12.33$$

$$8\frac{7}{20} = 8.35$$

$$\frac{128}{100} = 1.28$$

$$42\frac{9}{100} = 42.9$$

- A) 1 B) 2 C) 3 D) 4

Solution:

$$12\frac{33}{100} = 12 + 0.33 = 12.33 \quad (\text{True})$$

$$8\frac{7}{20} = 8 + 0.35 = 8.35 \quad (\text{True})$$

$$\frac{128}{100} = 1.28 \quad (\text{True})$$

$$42\frac{9}{100} = 42 + 0.09 = 42.09 \quad (\text{False})$$

Answer: C

Q45: Which number below is equal to $30 + 7 + \frac{2}{10}$

- A) 37.2 B) $\frac{39}{10}$ C) 3.9 D) 3.72

Solution:

$$30 + 7 + \frac{2}{10} = 37 + 0.2 = 37.2$$

Answer: A

Q46: There are 400 students at a school. On a particular day, 160 students did not come to school because of snow. What percentage of the students did not come to school?

- A) 20 B) 30 C) 40 D) 60

Solution:

$$\frac{160}{400} \times 100 = \frac{160}{4} = 40$$

Answer: C

Q47: Which distance below is equal to 7800 meters?

- A) 0.78km B) 78km
C) 7.8km D) 0.0078km

Solution:

$$\text{A) } 0.78\text{km} = 0.78 \times 1000\text{m} = 780\text{m}$$

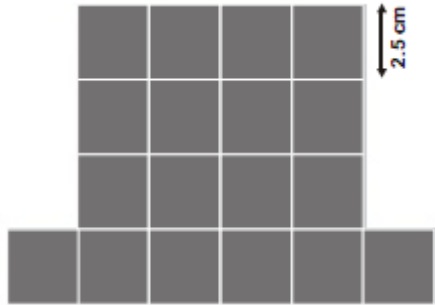
$$\text{B) } 78\text{km} = 78 \times 1000\text{m} = 78000\text{m}$$

$$\text{C) } 7.8\text{km} = 7.8 \times 1000\text{m} = 7800\text{m}$$

$$\text{D) } 0.0078\text{km} = 0.0078 \times 1000\text{m} = 7.8\text{m}$$

Answer: C

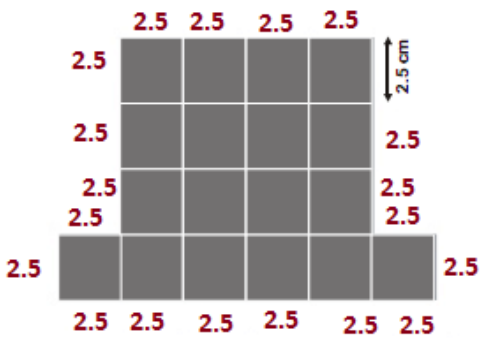
Q48:



Find the perimeter of the shaded region above if the distance between two grid points is 2.5 cm

- A) 45 cm B) 50 cm C) 100 cm D) 75 cm

Solution:



Perimeter is $2.5 \times 20 = 50 \text{ cm}$

Answer: B

Q49: Ahmad fell asleep at 22:15 and wake up 9 hours 45 minutes later. What time did Ahmad wake up?

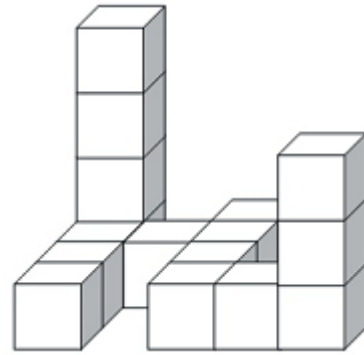
- A) 07:15 B) 07:30
C) 07:35 D) 08:00

Solution:

$$\begin{array}{r} 22:15 \\ +09:45 \\ \hline \boxed{08:00} \end{array}$$

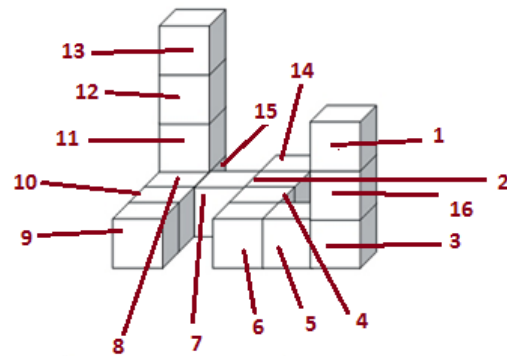
Answer: D

Q50: How many cubes are there in the shape given below?



- A) 14 B) 15 C) 16 D) 17

Solution:



Answer: C