

Q1: $25 - 4 \times 6 = ?$

- A) 1 B) 4 C) 126 D) 0

Solution:

$$25 - 4 \times 6 = 25 - 24 = 1$$

Answer: A

Q2: $0.2 + 0.22 + 0.022 = ?$

- A) 0.222 B) 0.323 C) 0.442 D) 0.44

Solution:

$$0.2 + 0.22 + 0.022 = 0.442$$

Answer: C

Q3: The smallest whole number which is divisible by 8 and 12 is:

- A) 4 B) 16 C) 24 D) 48

Solution:

LCM of 8 and 12 is 24

Answer: C

Q4: $\frac{5}{8} \div \frac{3}{4} = ?$

- A) $\frac{15}{32}$ B) $\frac{5}{6}$ C) $\frac{3}{4}$ D) $\frac{5}{12}$

Solution:

$$\frac{5}{8} \div \frac{3}{4} = \frac{5}{8} \times \frac{4}{3} = \frac{5}{6}$$

Answer: B

Q5: What is the sum of all possible remainders of a division if the divisor is 12?

- A) 66 B) 64 C) 62 D) 60

Solution:

Sum of the numbers 0 to 11.

$$0 + 1 + 2 + \dots + 11 = \frac{11 \times 12}{2} = 66$$

Answer: A

Q6: $\frac{1}{2 + \frac{1}{2 + \frac{1}{2}}} = ?$

- A) $\frac{5}{6}$ B) $\frac{6}{5}$ C) $\frac{12}{5}$ D) $\frac{5}{12}$

Solution:

$$\frac{1}{2 + \frac{1}{2 + \frac{1}{2}}} = \frac{1}{2 + \frac{2}{5}} = \frac{5}{12}$$

Answer: D

Q7: Which of the following could be the area of a square?

- A) 12 B) 24 C) 32 D) 49

Solution:

the area of a square = $a^2 = 7^2 = 49$

Answer: D

Q8: If $x = \frac{144}{9}$, what is the value of $36x + 21$?

- A) 592 B) 595 **C) 597** D) 602

Solution:

$$x = \frac{144}{9} \Rightarrow 36x + 21 = 36 \times \frac{144}{9} + 21 = 576 + 21 = 597$$

Answer: C

Q9: $A = \frac{1}{2} + \frac{1}{3} + \frac{1}{4}$ and $B = \frac{1}{4} + \frac{1}{6} + \frac{1}{8}$, then what is the value of $\frac{A}{B}$?

- A) $\frac{13}{2}$ **B) 2** C) 13 D) 26

Solution:

$$B = \frac{1}{4} + \frac{1}{6} + \frac{1}{8} = \frac{1}{2} \left(\frac{1}{2} + \frac{1}{3} + \frac{1}{4} \right) = \frac{1}{2} A \Rightarrow \frac{A}{B} = 2$$

Answer: B

Q10: 2^8 apples are shared among 8 children equally. How many apples did each child get?

- A) 2 B) 2^2 C) 2^4 **D) 2^5**

Solution:

$$\frac{2^8}{8} = \frac{256}{8} = 32 = 2^5$$

Answer: D

Q11: If $6 - y = 2y - 6$, what is the value of y ?

- A) 0 B) 2 **C) 4** D) 6

Solution:

$$6 - y = 2y - 6 \Rightarrow 12 = 3y \Rightarrow y = 4$$

Answer: C

Q12: Ashan can paint a table in 40 minutes and he started at 07:20 a.m. How many tables can Ahsan paint till 02:40 p.m.?

- A) 9 B) 10 **C) 11** D) 12

Solution:

$$14:40 - 07:20 = 7 \text{ hours } 20 \text{ minutes} = 440 \text{ minutes}$$

$$440 \div 40 = 11 \text{ tables.}$$

Answer: C

Q13: What is the greatest four-digit number if the product of its digits is 210?

- A) 7532 **B) 7651** C) 7652 D) 7653

Solution:

$$7 \times 6 \times 5 \times 1 = 210$$

Answer: B

Q14: The distance between any two points is equal vertically and horizontally. How many isosceles triangles can be drawn by joining these points?



- A) 22 B) 23 **C) 24** D) 25

Solution:

Answer: C

Q15: Faheem is 41 years old and he has celebrated all his birthdays. In how many birthday parties was Faheem's age a prime number?

- A) 9 B) 11 C) 13 D) 15

Solution:

Following ages are prime numbers: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41

Answer: C

Q16: What is the value of k if

$$\left(1 + \frac{1}{2}\right) \times \left(1 + \frac{1}{3}\right) \times \left(1 + \frac{1}{4}\right) \times \left(1 + \frac{1}{5}\right) \times \left(1 + \frac{k}{6}\right) = 4?$$

- A) 2 B) 3 C) 4 D) 5

Solution:

$$\left(1 + \frac{1}{2}\right) \times \left(1 + \frac{1}{3}\right) \times \left(1 + \frac{1}{4}\right) \times \left(1 + \frac{1}{5}\right) \times \left(1 + \frac{k}{6}\right) = 4$$

$$\frac{3}{2} \times \frac{4}{3} \times \frac{5}{4} \times \frac{6}{5} \times \frac{k+6}{6} = 4 \Rightarrow \frac{k+6}{2} = 4 \Rightarrow k = 2$$

Answer: A

Q17: The sum of the ages of Tahseen, Hassam and Razziq is 31 years. What will be the sum of their ages after 13 years?

- A) 32 B) 44 C) 48 **D) 70**

Solution:

The sum of their ages after 13 years is:
 $31 + 13 \times 3 = 31 + 39 = 70$

Answer: D

Q18: Mohsin was fishing. If he had caught three times as many as he actually did, he would have 12 more.

How many fish did he catch?

- A) 7 **B) 6** C) 5 D) 4

Solution:

$$3x = x + 12 \Rightarrow 2x = 12 \Rightarrow x = 6$$

Answer: B

Q19: What was the age of Ahmad 4 years ago if his age will be 27 after 8 years?

- A) 15** B) 19 C) 23 D) 35

Solution:

$$27 - 8 - 4 = 15$$

Answer: A

Q20: What is the number indicated by question mark in the given pattern?

$$684156 \rightarrow 5760$$

$$718412 \rightarrow 448$$

$$579311 \rightarrow 945$$

$$875315 \rightarrow ?$$

- A) 4200** B) 5500 C) 724 D) 645

Solution:

$$684156 (= 6 \times 8 \times 4 \times 1 \times 5 \times 6) \rightarrow 5760$$

$$718412 (= 7 \times 1 \times 8 \times 4 \times 1 \times 2) \rightarrow 448$$

$$579311 (= 5 \times 7 \times 9 \times 3 \times 1 \times 1) \rightarrow 945$$

$$875315 (= 8 \times 7 \times 5 \times 3 \times 1 \times 5) \rightarrow ? = 4200$$

Answer: A

Q21: A science class has a ratio of girls to boys of 4 to 3. If the class has a total of 35 students, how many more girls are there than boys?

- A) 20 B) 15 C) 7 **D) 5**

Solution: There are 5 more girls than boys

$$\frac{35}{7} = 5$$

Answer: D

Q22: If 35% of p is equal to 700, what is 40% of p ?

- A) 98 B) 245 C) 280 **D) 800**

Solution:

$$\frac{35}{100} \times p = 700 \Rightarrow p = 2000 \Rightarrow \frac{40}{100} \times 2000 = 800$$

Answer: D

Q23: What is the remainder when the sum of three consecutive even integers is divided by 6?

- A) 0** B) 1 C) 2 D) 3

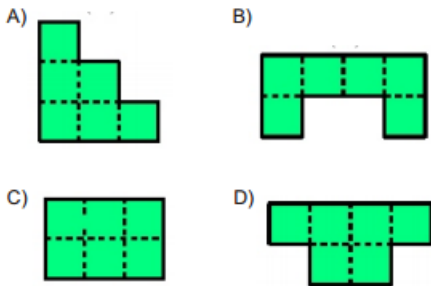
Solution:

Remainder is equal to 0 every time. See the example:

$$\frac{2+4+6}{6} = \frac{12}{6} = 2$$

Answer: A

Q24: The areas of the four figures below are equal. Which one has the greatest perimeter?



Solution:

A) has 12 units **B) has 14 units**
 C) has 8 units D) has 12 units

Answer: B

Q25: The number 3 can be expressed as the sum of one or more positive integers in 3 different ways (3 or 2+1 or 1+1+1).

In how many ways, 5 can be expressed as the sum of one or more positive integers?

- A) 5 B) 6 **C) 7** D) 8

Solution:

(1+1+1+1+1), (1+1+1+2), (1+1+3), (1+2+2), (1+4), (2+3), 5

Answer: C

Q26: Which of the following is the most repeated digit when the numbers from 1 to 100 are written?

- A) 0 **B) 1** C) 3 D) 9

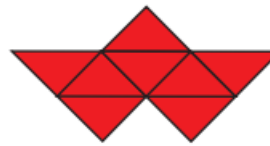
Solution:

See the following examples. 1 is used 21 times.

1, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 31, 41, 51, 61, 71, 81, 91, 100

Answer: B

Q27: How many triangles are there in the figure below?



- A) 9 **B) 11** C) 12 D) 15

Solution:

Answer: B

Q28: A researcher found that the number of bacteria in a certain sample doubles every hour. If there were 6 bacteria in the sample at the start of the experiment, how many bacteria will be there after 4 hours?

- A) 24 B) 48 **C) 96** D) 192

Solution:

after 1 hour → 12 bacteria
 after 2 hours → 24 bacteria
 after 3 hours → 48 bacteria
 after 4 hours → 96 bacteria

Answer: C

Q29: There were 320 students at school assembly attended only by juniors and seniors. If there were 60 more juniors than seniors and 30 more female juniors than male juniors, then find the number of male juniors?

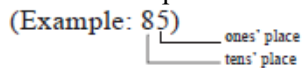
- A) 40 B) 30 C) 50 **D) 80**

Solution:

$320 - 60 = 260$ if we divide by 2 then $260 \div 2 = 130$ Senior Students. Then there are 190 Junior Students. Then the number of male juniors is $190 - 30 = 160$ then $160 \div 2 = 80$

Answer: D

Q30: Which of the following will be in tens' place in



the product of $1 \times 2 \times 3 \dots 48 \times 50$?

- A) 0** B) 1 C) 2 D) 4

Solution: If we multiply 2 and 50 then it will 100. That is why the number in the ten's place is "0"

$1 \times 2 \times 3 \dots 48 \times 50 = \dots\dots\dots 00$

Answer: A

Q31: Sum of six consecutive natural numbers is 87. What is the average of these numbers?

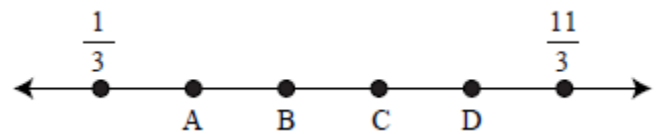
- A) 14 **B) 14.5** C) 15 D) 15.5

Solution:

The average of these numbers: $\frac{87}{6} = 14.5$

Answer: B

Q32: Following line is divided in to equal parts.



Which fraction represents the point C?

- A) 1 B) $\frac{5}{3}$ **C) $\frac{7}{3}$** D) 3

Solution:

each equal parts = $\left(\frac{11}{3} - \frac{1}{3}\right) \div 5 = \frac{10}{3} \times \frac{1}{5} = \frac{2}{3}$

the point C = $\frac{1}{3} + \frac{2}{3} \times 3 = \frac{7}{3}$

Answer: C

Q33: In an animal's school, 3 kittens, 4 ducklings, 2 goslings and several lambs are taking lessons. The teacher owl found out that all of her pupils have 44 legs altogether. How many lambs are among them?

- A) 6 **B) 5** C) 4 D) 3

Solution:

$3 \times 4 + 4 \times 2 + 2 \times 2 + \text{lambs} \times 4 = 44$

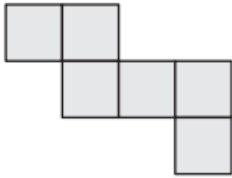
$\Rightarrow \text{lambs} \times 4 = 44 - 24$

$\Rightarrow \text{lambs} \times 4 = 20 \Rightarrow \text{lambs} = 5$

Answer: B

Q34: The area of the figure below which is made by 6 congruent squares is 294 cm^2 .

What is the perimeter of the figure in cm?



- A) 49 B) 64 **C) 98** D) 102

Solution:

The area of each square = $294 \div 6 = 49 \text{ cm}^2$

Each side of squares = 7 cm

the perimeter of the figure = $7 \times 14 = 98 \text{ cm}$

Answer: C

Q35: By using 0, 1, 2 and 2, how many different four-digit numbers can be obtained?

- A) 6 **B) 9** C) 12 D) 15

Solution:

9 different four-digit numbers can be obtained. Like: 1022, 1202, 1220, 2012, 2021, 2102, 2120, 2201, 2210

Answer: B

Q36: The product of H.C.F. and L.C.M. of two numbers is 384. One of the number is 8 more than the other.

What is the sum of the numbers?

- A) 48 **B) 40** C) 36 D) 24

Solution:

The product of H.C.F. and L.C.M. of two numbers = The product of these two numbers.

Factors of 384: 16 and 24. Their sum is $16+24=40$.

Answer: B

Q37: What is the greatest prime number which can divide 2001 without remainder?

- A) 23 **B) 29** C) 31 D) 41

Solution:

Three different prime factors of 2001 are 3, 23 and 29. The greatest one is 29.

Answer: B

Q38: The numbers whose only common factor is 1 are called relatively prime numbers?

Which of the following two numbers are relatively prime numbers?

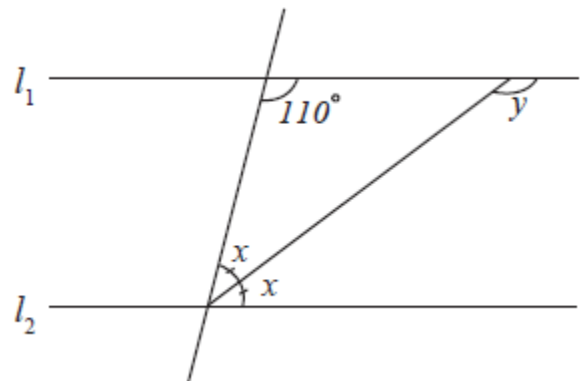
- A) 12 and 16 B) 15 and 18
C) 20 and 33 D) 55 and 77

Solution:

20 and 33 have only common factor is 1

Answer: C

Q39: If l_1 is parallel to l_2 in figure below, what is the value of y ?



- A) 130 B) 135 C) 140 **D) 145**

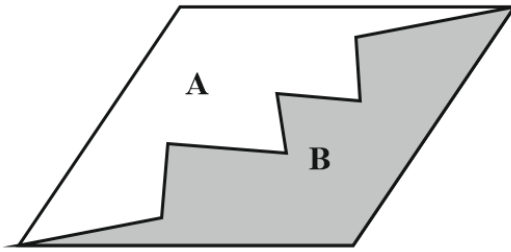
Solution:

$$110 + 2x = 180 \Rightarrow 2x = 70 \Rightarrow x = 35$$

$$x + y = 180 \Rightarrow 35 + y = 180 \Rightarrow y = 180 - 35 = 145$$

Answer: D

Q40: A parallelogram is divided in two parts and named as A and B as it is shown in the figure. Which of the following statement is exactly true?

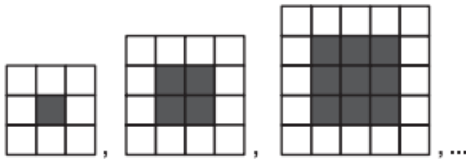


- A) The perimeter of A is more than the perimeter of B.
- B) The perimeter of A is less than the perimeter of B.
- C) The area of A is more than the area of B.
- D) The perimeter of A and B are equal.**

Solution:
Because A and B having same sides. So their perimeter are equal.

Answer: D

Q41: How many squares will be unshaded in the tenth step of the figure below?

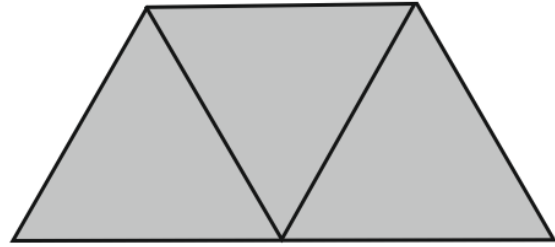


- A) 38
- B) 40
- C) 42
- D) 44**

Solution:
According to given figure there will be $12^2 - 10^2 = 144 - 100 = 44$ unshaded square in 10th step of the figure.

Answer: D

Q42: The following trapezium is formed by using three equilateral triangles whose sides are integers.



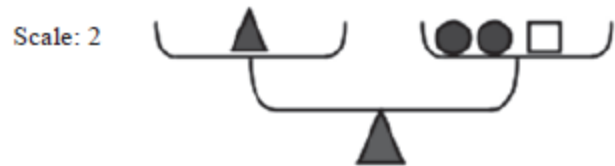
Which of the following can be the perimeter of the trapezium?

- A) 24 units
- B) 35 units**
- C) 36 units
- D) 48 units

Solution:
Sides will be multiples of 5. So perimeter can be 35 units

Answer: B

Q43: According to the scales below, how many square(s) is/are needed to balance one circle? (Scales are balanced.)



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

Solution:
If we replace 1 triangle with 2 circles and 1 square in scale 1. Two circles cancel on the right of scale cancel two circles on the right. Then two circles on the left equal two squares on the right. It means 1 circle balances 1 square.

Answer: A

Q44: What is the middle term of nine consecutive numbers whose sum is 369?

- A) 35 B) 38 C) 40 **D) 41**

Solution: If we divide sum with total number then we

can find middle term. $\frac{369}{9} = 41$

Answer: D

Q45: How many positive divisors of 720 are divisible by 8 but not by 9?

- A) 8** B) 9 C) 10 D) 11

Solution:

Prime factors of 720=2⁴x3²x5. Divisors of 720 which are divisible by 8 but not 9 are 8, 16, 24, 40, 48, 80, 120, 240

Answer: A

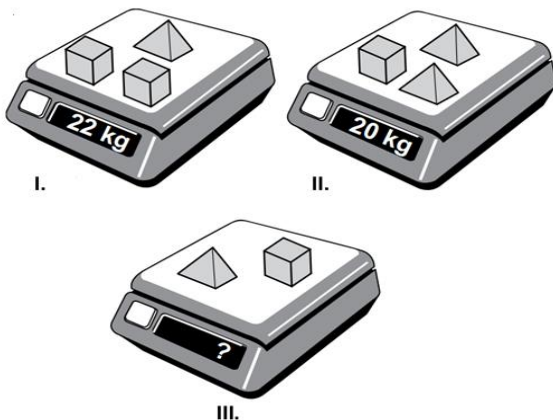
Q46: If half of number B is a perfect square number then find B.

- A) 288** B) 144 B) 76 D) 100

Solution: $\frac{288}{2} = 144 = 12^2$

Answer: A

Q47: In the first and the second figure below, some pyramids and cubes are measured as 22 kg and 20 kg respectively. What is the weight of a cube and a pyramid in the third figure?



- A) 12 **B) 14** C) 16 D) 18

Solution:

If we add all the weights in 1st and 2nd scale: 3 Cubes + 3 Pyramids = 42 kg. Then divide both sides by 2. Then the weight of a cube and a pyramid in the 3rd figure is 14 kg

Answer: B

Q48: The number 352a is divisible by 5. What is/are the possible value(s) of a?

- A) 0 or 5** B) 5 C) 2 or 5 D) 2

Solution:

For divisibility of 5, one digit must be 0 or 5.

Answer: A

Q49: Latifa is subscribed to four publications that cost \$12.90, \$ 16.00, \$ 18.00 and \$ 21.90 per year respectively. If she made an initial payment of half of the total yearly subscription cost and paid the rest in four equal monthly payments, how much will she pay each remaining month?

- A) \$8.60** B) \$9.20 C) \$9.45 D) \$17.20

Solution:

$12.9 + 16 + 18 + 21.9 = 68.8$

$\frac{68.8}{2} = 34.4 \Rightarrow \frac{34.4}{4} = \8.60 (each payment)

Answer: A

Q50: Twenty bottles contain a total of 8 liters of apple juice. If each bottle contains the same amount of apple juice, how many liters of juice are in each bottle?

- A) 2.7 B) 2.5 C) 0.9 **D) 0.4**

Solution: $\frac{8}{20} = 0.4$

Answer: D