GRADE 3-4 QUESTIONS AND SOLUTIONS

Q1:

$$\begin{array}{r} 3\,A\,5\,4 \\ 2\,6\,2\,B \\ +\ C\,7\,9\,3 \\ \hline 7\,7\,7\,4 \end{array}$$

What is the value of A + B + C = ? (1 points)

A) 7 B) 9 C) 10 D) 11

Q2: 1899 + MNP = ●

1217 + 1666 = ▲

If ● = ▲ then find MNP. (2 points)

A) 943 B) 498 C) 894 D) 984

Q3:

6, ★, 20, ●, 34, 41, ...

How much ● is more than ★ ? (3 points)

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

Q4:

A greengrocer bought 148 crates of tomatoes to sell. Each crate contained 19 kg of tomatoes. The greengrocer wants to sell these tomatoes in 4 kg packages. How many packages does he need? (4 points)

A) 703 B) 73 C) 42 D) 402

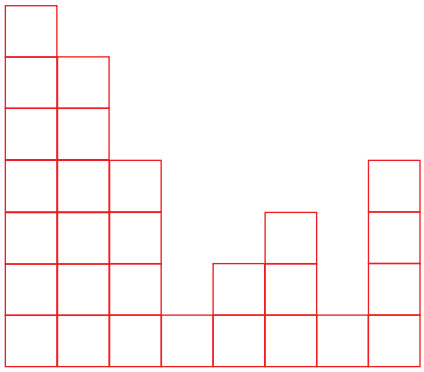
Q5:

– Jack is older than Lily.
– Lily is younger than Alex, but older than Melissa.
– Alex is older than Jack.

Based on this information if we rank these children from oldest to youngest, who will be in 2nd place? (5 points)

A) Jack B) Lily
C) Alex D) Melissa

Q6:



The above figure is made up of square pieces. What is the minimum number of additional square pieces needed to complete the figure into the smallest possible rectangle? (6 points)

A) 24 B) 28 C) 30 D) 32

Q7:

In a farm, the number of chickens is 5 times the number of roosters. If the total number of chickens and roosters is 366, how many chickens are there? (1 points)

A) 61 B) 305 C) 73 D) 102

Q8: The triple of 106 is added to the quintuple of 95. What is the result of this operation? (1 points)

A) 318 B) 475 C) 1608 D) 793

Q9: (3059 x 4) – 879 < ■

What is possible smallest value of ■ ?
(1 points)

A) 11 357
B)11 457
C) 11 356
D)11 358

Q10:

An athlete needs to run a total of 8746 meters in three days. On the first day, he ran 2104 meters, and on the second day, he ran 3099 meters. How many meters does the athlete need to run on the third day to complete his run? (1 points)

A) 5203
B) 5647
C) 3543
D) 3647

Q11: Product of two numbers is 392. One factor is 8. What is the other factor? (2 points)

A) 49
B) 48
C) 39
D) 36

Q12:

18018 ÷ 18

Which one is CORRECT according to the division above? (2 points)

A) The quotient has three digits.
B) The quotient has two zeros.
C) The quotient has one zero.
D) The quotient is the greatest three digits number.

Q13: 3 kg + 2000 mg + 45 g = ■ g

What is possible smallest value of ■?
2 points)

A) 2048
B) 347
C) 3047
D) 5045

Q14:

Oliver's step is 65 cm. Oliver takes 140 steps to go from home to school. What is the distance between his school and his home in meters?

(2 points)

A) 9100 B) 910 C) 91 D) 90

Q15:

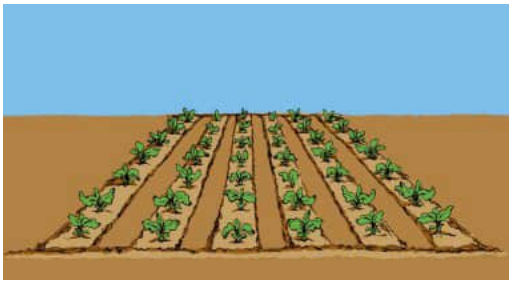
Emma bought a quarter kilogram of onions, 1 kilogram and 250 grams of tomatoes, 4.5 kilograms of potatoes, 3.5 kilograms of oranges, and half a kilogram of bananas from the grocery store. What is the total weight of the items Emma bought in kilograms?
(3 points)

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

Q16: How much is 10 quarter liters less than 5 liters? (3 points)

A) 2 liters
B) 2 and half liters
C) 2 liters and 250 mL
D) 3 liters

Q17:



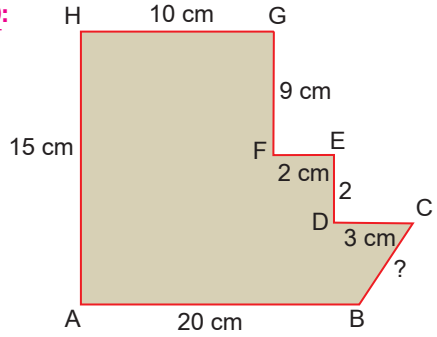
A square-shaped field with a side length of 20 meters will be surrounded by 4 rows of wire. How many meters of wire are needed for this?
(3 points)

A) 200 B) 240 C) 320 D) 400

Q18: The perimeter of square is 36 cm. What is the area of square? (3 points)

A) 9 B) 49 C) 64 D) 81

Q19:



The perimeter of the shape above is 68 cm. What is the volue of missing side? (4 points)

A) 4 B) 6 C) 7 D) 9

Q20:

When the grasshopper makes its first jump, it advances 1 meter and 20 centimeters. With each jump, it advances 40 centimeters more than the previous jump. How far will the grasshopper have traveled by the end of its fifth jump? (4 points)

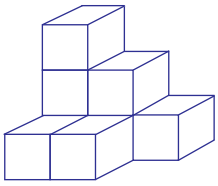
A) 1 km B) 600 cm
C) 10 m D) 760 cm

Q21: $\frac{1}{6}$ hour + 2220 sec – 12 min

= **how mony minutes. (4 points)**

A) 35 B) 59 C) 183 D) 192

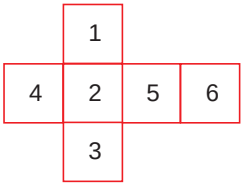
Q22:



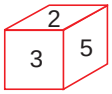
How many unit cubes are there in this shape? (4 points)

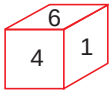
A) 5 B) 6 C) 8 D) 9

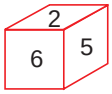
Q23:

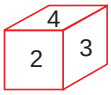


Which of the following cannot be obtained when the cube, whose net is given in the figure, is folded? (5 points)

A)


B)


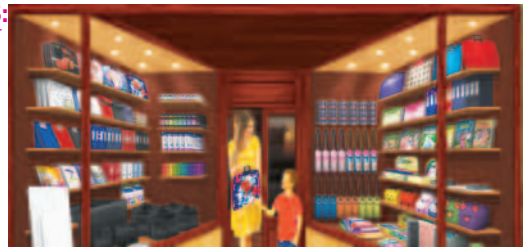
C)


D)


Q24: **How much should be added to the largest 5-digit natural number to obtain the smallest 6-digit odd number? (5 points)**

A) 2 B) 11 112
C) 11 111 D) 1000

Q25:



A stationery shop owner has brought green and purple notebooks to sell. Some of these notebooks are lined and some are checkered. If the number of green notebooks is 5108, the number of lined notebooks is 6864, and the number of purple lined notebooks is 3004, how many green checkered notebooks are there? (5 points)

A) 1248 B) 1756
C) 2104 D) 3860

Q26:

There are 128 passengers on a bus. At the first stop, 24 people boarded and 19 people alighted. At the second stop, 32 people boarded and 13 people alighted. At the third stop, 18 people boarded and 23 people alighted. How many passengers are there on the bus at the end? (5 points)

A) 53 B) 120 C) 144 D) 147

Q27:

In a farm, the number of ducks is 4 times the number of rabbits. If the total number of legs of the ducks and rabbits is 1404, how many rabbits are there on this farm? (6 points)

A) 107 B) 117 C) 123 D) 132

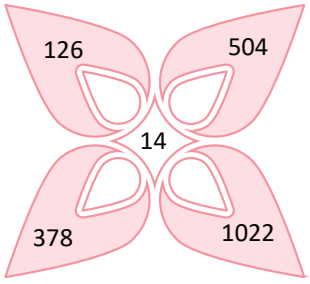
Q28: **My mother's age is 4 times my age. My grandfather's age is 3 times my mother's age. The sum of our ages is 136. How old is my grandfather? (6 points)**

A) 72 B) 84 C) 96 D) 98

Q29: **What is $\frac{1}{17}$ of the number, given that $\frac{6}{14}$ of the number is 102? (6 points)**

A) 8 B) 10 C) 14 D) 17

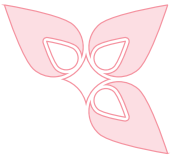
Q30:

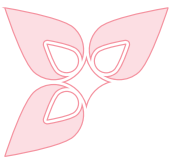


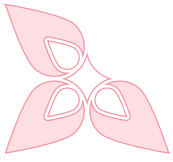
The numbers on the leaf of the flower will be divided by 14.

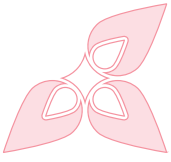
The leaf with a number that does not yield a two-digit result when divided by 14 will be torn off.

Based on this, what will be the final appearance of the flower? (6 points)

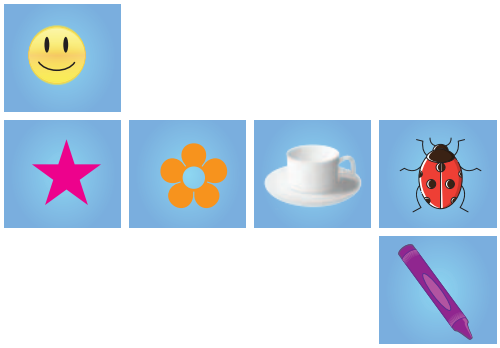
A) 

B) 

C) 

D) 

Q31:

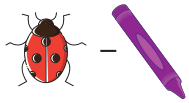


In the closed state of the cube given in the unfolding, which faces are opposite each other? (7 points)

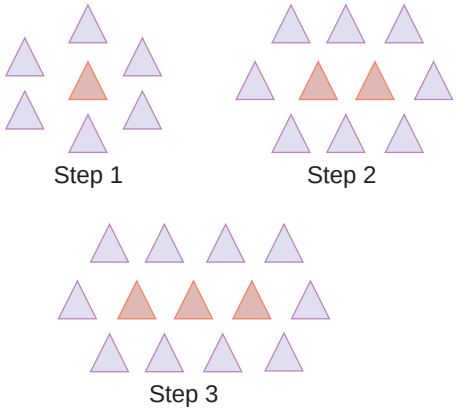
A) 

B) 

C) 

D) 

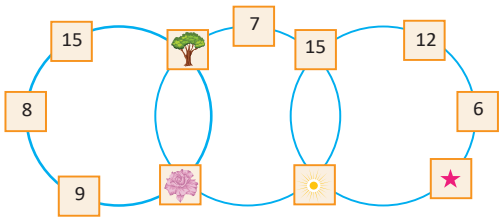
Q32:



According to the rule above, in which step do we use 31 triangles? (7 points)

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

Q33:

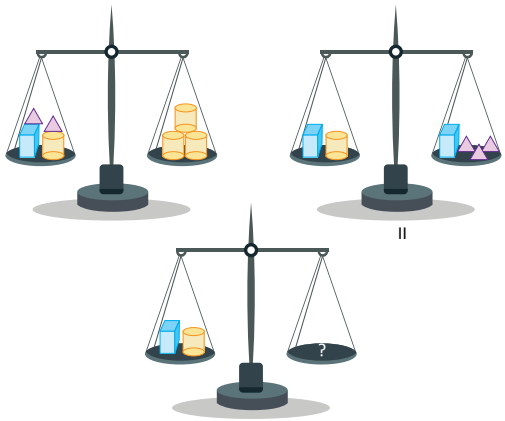


The sum of the 5 numbers written on each circle is 60.

What number should be placed in the box marked with "★"? (7 points)

A) 17 B) 19 C) 27 D) 29

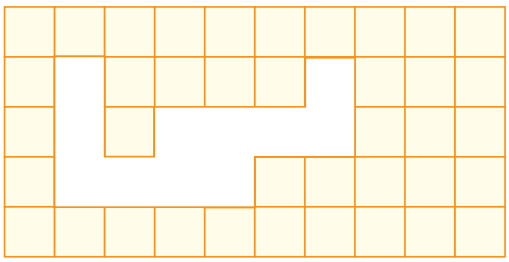
Q34:



Scale I and Scale II are balanced as shown in the diagram. In the III. diagram, how many ▲ shapes should replace the '?' ? (7 points)

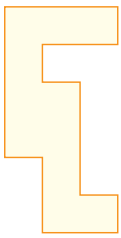
A) 5 B) 6 C) 7 D) 11

Q35:

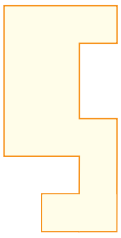


Find the missing piece in the picture (7 points)

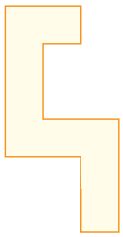
A)



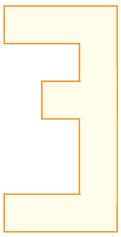
B)



C)



D)



GRADE 3-4 QUESTIONS AND SOLUTIONS

ANSWER IS D

SOLUTION:

Q1: Starting from the ones digit, we need to check each addition operation.

4 + B + 3 = 4 or 4 + B + 3 = 14

The first option is impossible because in tens digit we had extra one ten. So, we will consider the second option.

So, 7 + B = 14, then B = 7

In hundreds digit, A + 6 + 7 = 17 but we had an extra one hundred from tens digit, so

A + 6 + 7 + 1 = 17, then A = 3

In thousands digit, 3 + 2 + C = 7, but we had an extra one thousand from hundreds digit

So, 1 + 3 + 2 + C = 7, then C = 1

A = 3, B = 7, and C = 1

Total = 3 + 7 + 1 = 11

ANSWER IS D

SOLUTION:

Q2: To find MNP, we need to find the value of the triangle first.

1217 + 1666 = 2883, which equals ▲

The value of the triangle equals the value of the circle which is 2883.

1899 + MNP = 2883

To find MNP, we need to use the inverse operation of addition, that is subtraction.

2883 – 1899 = MNP

2883 – 1899 = 984 = MNP

ANSWER IS A

SOLUTION:

Q3: To find their value, we need to find the rule of the pattern first.

The difference between 41 and 34 is 7.

Therefore, the rule of the pattern is adding 7 for the next term.

6 + 7 = ★

So, ★ = 13

20 + 7 = ●

So, ● = 27

To find their difference, we need to subtract 14 from 27.

27 – 13 = 14

ANSWER IS A

SOLUTION:

Q4: Calculate the total weight of the tomatoes:

Total weight = 148 crates × 19 kg/crate = 2812 kg

Calculate the number of 4 kg packages needed:

Number of packages = 2812 kg ÷ 4 kg

= 703 packages

So, the greengrocer needs 703 packages.

ANSWER IS A

SOLUTION:

Q5: To solve this, we need to determine the relative ages of all the children:

1. Jack (J) is older than Lily (L).

- J > L

2. Lily (L) is younger than Alex (A), but older than Melissa (M).

- A > L > M

3. Alex (A) is older than Jack (J).

- A > J

Combining all the information:

- A > J > L > M

Thus, in the order from oldest to youngest, the second oldest child is Jack (J).

ANSWER IS B

SOLUTION:

Q6: The length of the rectangle contains 8 squares. The width of the rectangle contains 7 squares. The formula of area of a rectangle is length x width.

A = 8 squares x 7 squares = 56 squares^2

In this figure above, there are 28 squares in total.

To complete 56 squares, 28 squares are needed.

56 – 28 = 28

ANSWER IS B

SOLUTION:

Q7: Let r be the number of roosters.

Let c be the number of chickens.

The number of chickens is 5 times the number of roosters: c = 5r.

The total number of chickens and roosters is 366: c + r = 366.

Since c = 5r, replace c in the second equation:

5r + r = 366

6r = 366

$\frac{366}{6} = 61$

r = 61

Find the number of chickens (c):

c = 5r

5 × 61

c = 305

ANSWER IS D

SOLUTION:

Q8: Find the triple of 106:

3 × 106 = 318

Find the quintuple of 95:

5 × 95 = 475

Add the results together:

318 + 475 = 793

ANSWER IS D

SOLUTION:

Q9: 3059 x 4 = 12 236

12 236 – 879 = 11 357

Since ■ is greater than 11 357, the smallest value of ■ can be 11 358.

ANSWER IS C

SOLUTION:

Q10: Let's solve the problem step by step:

Determine the total distance run in the first two days:

2104 meters + 3099 meters = 5203 meters

Find the remaining distance to be run on the third day:

8746 meters – 5203 meters = 3543 meters

Therefore, the athlete needs to run 3543 meters on the third day to complete his run.

ANSWER IS A

SOLUTION:

Q11: The product of the two numbers is given by:

8 x ? = 392

Let's use the inverse operation of multiplication to find the other factor.

392 ÷ 8 = 49

ANSWER IS B

SOLUTION:

Q12: Let's find the quotient first.

18018 ÷ 18 = 1001

The quotient has four digits, so A and D are wrong.

The quotient has two zeros, so B is correct and C is wrong

ANSWER IS C

SOLUTION:

Q13: Let's convert all measurements to grams.

3 kg = 3000 g

2000 mg = 2 g

Add them together to find .

3000 g + 2 g + 45 g = 3047 g

ANSWER IS C

SOLUTION:

Q14: Calculate the total distance in centimeters:

Distance = 65 cm / step × 140 steps

Distance = 9100 cm

Convert the distance to meters:

Distance in meters = 9100 cm

$\frac{9100 \text{ cm}}{100} = 91 \text{ m}$

Therefore, the distance between Oliver's school and his home is 91 meters.

ANSWER IS C

SOLUTION:

Q15: Convert all weights to kilograms:

- Onions: 0.25 kg
- Tomatoes: 1.25 kg

  (since 1 kg 250 g = 1 kg + 0.25 kg)
- Potatoes: 4.5 kg
- Oranges: 3.5 kg
- Bananas: 0.5 kg

Sum all the weights:

0.25 kg + 1.25 kg + 4.5 kg + 3.5 kg + 0.5 kg = 10 kg

Therefore, the total weight of the items Emma bought is 10 kilograms.

ANSWER IS B

SOLUTION:

Q16 First, convert 10 quarter liters to liters:

A quarter liter is 0.25 liters. Therefore, 10 quarter liters is: 10 × 0.25 = 2.5 liters

Determine how much less 2.5 liters is than 5 liters:

5 liters – 2.5 liters = 2.5 liters

Therefore, 10 quarter liters is 2.5 liters less than 5 liters.

ANSWER IS C

SOLUTION:

Q17: Calculate the perimeter of the square field:

Perimeter = 4 × side length

Perimeter = 4 × 20 meters = 80 meters

Calculate the total length of wire needed for 4 rows:

Total wire = 4 × Perimeter

Total wire = 4 × 80 meters = 320 meters

Therefore, 320 meters of wire are needed.

ANSWER IS D

SOLUTION:

Q18: Find the side length of the square:

- The perimeter of a square is given by 4 × side length
- Therefore, the side length s is: 4s = 36 cm

  36 ÷ 4= 9 cm

Calculate the area of the square:

The area of a square is given by side length x side length

Area = s^2= 9 cm × 9 cm = 81 cm^2

Therefore, the area of the square is 81 cm^2

ANSWER IS C

SOLUTION:

Q19: Add all known side lengths and find the sum first.

15 cm +10 cm + 9 cm + 2 cm + 2 cm + 3 cm + 20cm

= 61 cm

Perimeter = 61 cm + ? cm= 68 cm

68 cm – 61 cm = 7 cm

ANSWER IS C

SOLUTION:

Q20: Convert the initial jump distance to centimeters:

1 meter and 20 centimeters = 120 centimeters.

Determine the distances for each of the five jumps:

- First jump: 120 cm
- Second jump: 120 cm + 40 cm = 160 cm
- Third jump: 160 cm + 40 cm = 200 cm
- Fourth jump: 200 cm + 40 cm = 240 cm
- Fifth jump: 240 cm + 40 cm = 280 cm

Calculate the total distance traveled by the end of the fifth jump:

Total distance

= 120 cm + 160 cm + 200 cm + 240 cm + 280 cm = 1000 cm

Convert the total distance back to meters:

1000 cm =10 meters

Therefore, the grasshopper will have traveled 10 meters by the end of its fifth jump.

ANSWER IS A

SOLUTION:

Q21: $\frac{1}{6}$ an hour is equal to one sixth of an hour.

1 hour = 60 minutes

$\frac{1}{6}$ hour = 60 ÷ 6 = 10 minutes

We need to convert 2220 seconds to minutes.

1 minute equals to 60 seconds.

2220 sec ÷ 60 sec = 37 minutes

To find the result, we need to add 10 and 37 minutes. Then, we need to subtract 12 minutes from the sum.

10 minutes + 37 minutes = 47 minutes

47 minutes – 12 minutes = 35 minutes

ANSWER IS C

SOLUTION:

Q22: To determine the number of unit cubes in the shape, let's count the cubes layer by layer from the bottom to the top.

Bottom Layer: The bottom layer has 5 cubes

Middle Layer: The middle layer has 2 cubes.

Top Layer: The top layer has 1 cube.

Total number of unit cubes: 5 + 2 + 1 = 8 cubes

ANSWER IS C

SOLUTION:

Q23: In option C, when you fold this cube, faces 2 and 6 cannot be next to each other. They must be opposite each other.

ANSWER IS A

SOLUTION:

Q24: Identify the largest 5-digit natural number: The largest 5 – digit natural number is 99999.

Identify the smallest 6-digit odd number: The smallest 6-digit number is 100000. The smallest 6 – digit odd number is 100001.

Calculate the difference between the smallest 6-digit odd number and the largest 5 – digit natural number:

100 001– 99 999 = 2

So, you need to add 2 to the largest 5 – digit natural number to obtain the smallest 6 – digit odd number.

ANSWER IS A

SOLUTION:

Q25: Determine the number of green lined notebooks:

- Total lined notebooks: 6864
- Purple lined notebooks: 3004
- Therefore, green lined notebooks:

  6864 – 3004 = 3860

Determine the number of green checkered notebooks:

- Total green notebooks: 5108
- Green lined notebooks: 3860
- Therefore, green checkered notebooks:

  5108 – 3860 = 1248

So, the number of green checkered notebooks is 1248.

ANSWER IS D

SOLUTION:

Q26: Initial number of passengers: 128

First stop:

- Passengers boarded: 24
- Passengers alighted: 19
- Change in number of passengers: 24 –19=5
- Number of passengers after the first stop:

  128 + 5 = 133

Second stop:

- Passengers boarded: 32
- Passengers alighted: 13
- Change in number of passengers: 2–13 = 19
- Number of passengers after the second stop: 133 + 19 = 152

Third stop:

- Passengers boarded: 18
- Passengers alighted: 23
- Change in number of passengers: 18 –23=–5
- Number of passengers after the third stop: 152 – 5 = 147

Final number of passengers on the bus: 147

ANSWER IS B

SOLUTION:

Q27: Let ★ be the number of rabbits. Let ■ be the number of ducks.

The number of ducks is 4 times the number of rabbits: ■ = 4 x ★

- Rabbits have 4 legs each. Total number of legs of rabbits = 4 x ★
- Ducks have 2 legs each. Total number of legs of ducks = 2 x ■

Total number of legs = 1404.

Therefore: (4 x ★) + (2 x ■) = 1404

Substitute ■ = 4 x ★

4 x ★ + (2 x 4 x ★) = 1404

Simplify: 4 x ★ + 8 x ★ = 12 x ★ = 1404

1404 ÷ 12= 117

★ = 117

So, there are 117 rabbits on the farm.

ANSWER IS C

SOLUTION:

Q28: Let ★ be your age.

Your mother's age is 4 x ★

Your grandfather's age is 3 x (4 x ★) = 12 x ★

The total sum of the ages is 136.

Therefore: ★ + 4 ★ + 12 ★ = 136

Combine the terms: 17 x ★ = 136

Divide both sides by 17 : ★ = 136 ÷ 17 = 8

★ = 8

Your grandfather's age = 12 x ★ =12 × 8 = 96

So, your grandfather is 96 years old.

ANSWER IS C

SOLUTION:

Q29: Let ■ be the number.

We know $\frac{6}{14}$ of ■ equals 102.

$\frac{6}{14} \times$ ■ =102

Solve for ■ :

Simplify $\frac{6}{14}$ to $\frac{3}{7}$: $\frac{3}{7} \times$ ■ =102

Solve for ■ : ■ =102 × $\frac{7}{2}$

Calculate: ■ = $\frac{714}{3}$ = 238

$\frac{1}{17} \times 238 = \frac{238 \times 1}{17}$

Calculate: $\frac{238}{17}$ = 14

So, $\frac{1}{17}$ of the number is 14.

ANSWER IS D

SOLUTION:

Q30: To find the final appearance, we need to divid the numbers on all leaves by 14.

504 ÷ 14 = 36

1022 ÷ 14 = 73

378 ÷ 14 = 27

126 ÷ 14 = 9

The leaf with a number that does not yield a two-digit result when divided by 14 is the leaf on the upper left. Therefore, the leaf with a number 126 will be torn off.

ANSWER IS C

SOLUTION:

Q31: The cube has six faces: Smiley face, Star, Flower, Teacup, Ladybug, and Crayon. When the cube is folded, each face has one opposite face.

- The smiley face (top) will fold down to be the top face.
- The crayon (bottom) will fold up to be the bottom face.
- The second row will form the sides.

When we fold it:

- The smiley face will be opposite the crayon.
- The star and the teacup will be opposite each other.
- The flower and the ladybug will be opposite each other.

So, the correct pairs of opposite faces are:

- Smiley face and crayon
- Star and teacup
- Flower and ladybug

ANSWER IS B

SOLUTION:

Q32: Step 1: 7 triangles

Step 2: 7 + 3 = 10 triangles

Step 3: 10 + 3 = 13 triangles

Step 4: 13 + 3 = 16 triangles

The number of triangles used in step n follows the formula:

Number of triangles = 7 + 3(n – 1)

Finding the Step for 31 Triangles

Set the formula equal to 31 and solve for n:

7 + 3(n – 1) = 31

Subtract 7 from both sides:

3(n – 1) = 24

Divide both sides by 3:

n – 1 = 8

Add 1 to both sides:

n = 9

So, we use 31 triangles at step 9

ANSWER IS A

SOLUTION:

Q33: For the first circle: 15 + 8 + 9 + tree + flower = 60

So, tree + flower= 28

For the circle in middle:

tree + flower + 7 + 15 + sun = 60

We found that tree + flower equals 28. Substitute it in this equation.

28 + 7 + 15 + sun = 60

So, sun= 10

For the last circle: 15 + 12 + 6 + star + sun = 60

We found that the sun equals 10. Substitute it in this equation.

5 + 12 + 6 + star + 10 = 60

Therefore, star = 17

ANSWER IS C

SOLUTION:

Q34: Let's analyze the scales:

Scale I:

- Left side: 1 cuboid + 1 cylinder + 2 pyramids
- Right side: 3 cylinders

Scale II:

- Left side: 1 cuboid + 1 cylinder
- Right side: 1 cuboid + 3 pyramids

Since both scales are balanced, we can set up equations based on their weights.

For Scale I:

Weight of 1 cuboid + 1 cylinder + 2 pyramids = Weight of 3 cylinders

For Scale II:

Weight of 1 cuboid + 1 cylinder = Weight of 1 cuboid + 3 pyramids

Now, in Scale III, on the left side we have 1 cuboid + 1 cylinder. We need to find out how many pyramids (▲) would balance this on the right side.

Substitute the equation for Scale II in the equation for Scale I:

Weight of 1 cuboid + 3 pyramids + 2 pyramids = Weight of 3 cylinders

From the equation 2, Weight of 1 cylinder = Weight of 3 pyramids

Therefore, Weight of 1 cuboid + 3 pyramids + 2 pyramids = Weight of 9 pyramids

Weight of 1 cuboid=Weight of 4 pyramids

So, Weight of 1 cuboid + 1 cylinder = Weight of 4 pyramids + Weight of 3 pyramids

So, in Scale III, 7 pyramids should replace the '?' to balance the scale.

ANSWER IS A

SOLUTION:

Q35: To identify the missing piece that fits into the grid:

The missing space in the grid has an "L" shape with one part extending horizontally and another vertically.

- **Option A:** This piece is "L" shaped and matches both the shape and orientation needed to fit into the empty space.
- **Option B:** While also "L" shaped, its orientation and proportions don't align with the empty space in the grid.
- **Option C:** This piece is similar to Option A but is oriented differently, so it doesn't match the required shape.
- **Option D:** Like Option C, this piece is an "L" shape but with an orientation that does not fit the space.

Given this analysis, **Option A** is the correct piece that completes the grid.