

Chapter 3 Patterns Around Us

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Let Us Count

Q. Gundappa has some land with tall coconut trees.
How many coconut trees does Gundappa have?

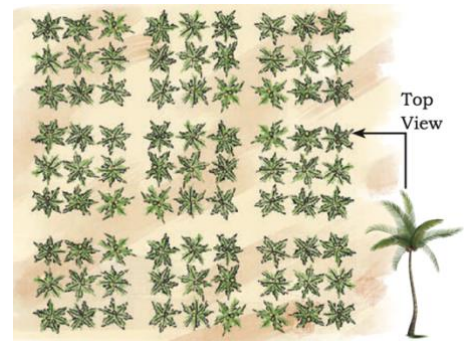
Solution:

Total trees = $9 \times 9 = 81$.

Q. How do you know?

Solution:

It is calculated by counting the number of trees in a group and then multiplying it by 9 to get the total number of trees.



Q. Gundappa has plucked 5 coconuts from each tree.
How many coconuts has he plucked?

Solution:

Total trees = 81

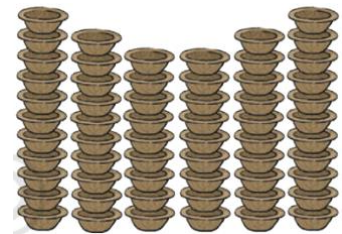
Coconuts plucked from each tree = 5

Total coconuts plucked = $81 \times 5 = 405$ coconuts.

Q. Muniamma makes plates and cups. Number of cups = _____

Solution:

Total cups = $2 \times 11 + 2 \times 10 + 2 \times 9$
 $= 22 + 20 + 18 = 60$ cups.



Q. How many coconut laddoos are there in the trays? _____

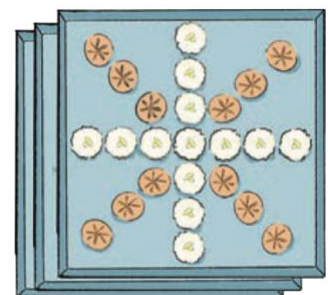
Solution:

Total laddoos = $3 \times 4 = 12$ laddoos.

Q. How many milk pedas are there in the trays? _____

Solution:

Total pedas = $3 \times 4 + 1 = 12 + 1 = 13$ pedas.



Patterns with Money



Q. How much money?

Solution:

Total money = $4 \times ₹5 + 4 \times ₹10 + ₹20 = ₹20 + ₹40 + ₹20 = ₹80$.



Q. How much money? _____

Solution:

Total money = $8 \times ₹5 + 6 \times ₹10 + 4 \times ₹2 = ₹40 + ₹60 + ₹8 = ₹108$.

Q. How did you count them? Discuss in class.

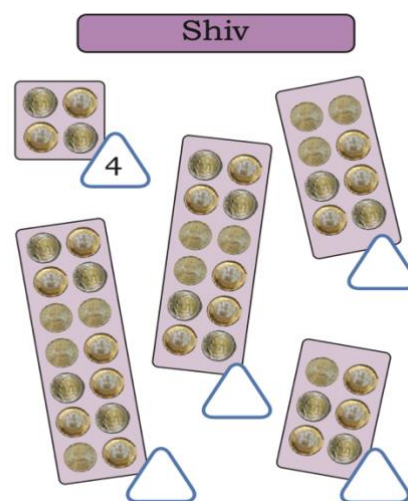
Solution:

It is done by multiplying the number of notes of each denomination by the value of the note, then adding the amounts together.

Q. Arrange play money of amounts 1, 2, 5, and 10 to show ₹36, ₹125, and ₹183. Ask your peers to tell how much it is.

$$\begin{aligned}\text{₹}36 &= 4 \times \text{₹}10 + \text{₹}5 + \text{₹}1 \\ \text{₹}125 &= 10 \times \text{₹}10 + 5 \times \text{₹}5 \\ \text{₹}183 &= 15 \times \text{₹}10 + 6 \times \text{₹}5 + 3 \times \text{₹}1\end{aligned}$$
$$₹183 = 15 \times ₹10 + 6 \times ₹5 + 3 \times ₹1$$
$$₹183 = 15 \times ₹10 + 6 \times ₹5 + 3 \times ₹1$$

Q. Shirley and Shiv arranged their coins in the following ways. Write the number of coins in the triangles.



Shirley

3

5

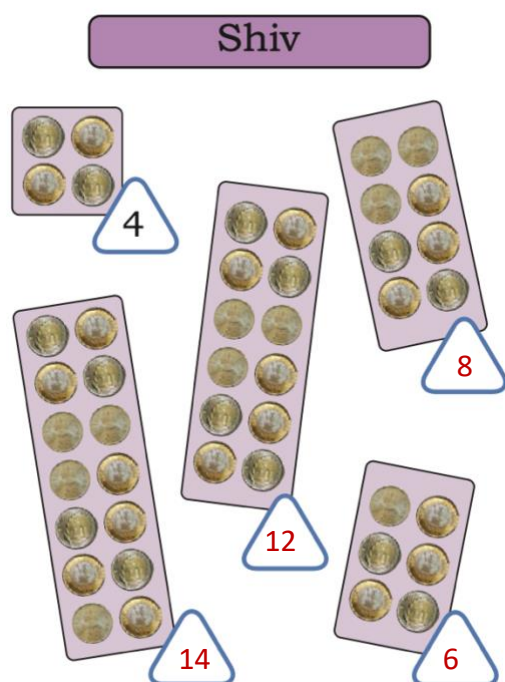
11

17

7

1

5



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Q. Describe Shiv's arrangement and write his numbers.

Solution:

Shiv arranged coins in groups of even numbers and his numbers are 4, 6, 8, 12 and 14.

Q. Describe Shirley's arrangement and write her numbers.

Solution:

Shirley arranged coins in groups of odd numbers and her numbers are 1, 3, 5, 7, 11 and 17.

Q. Identify numbers between 1 and 20 as even or odd. You may draw the pairing arrangement of the numbers.

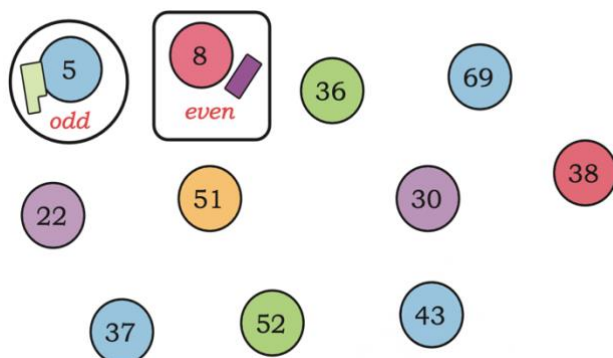
Solution:

Odd	Even
1, 3, 5, 7, 9, 11, 13, 15, 17, 19	2, 4, 6, 8, 10, 12, 14, 16, 18

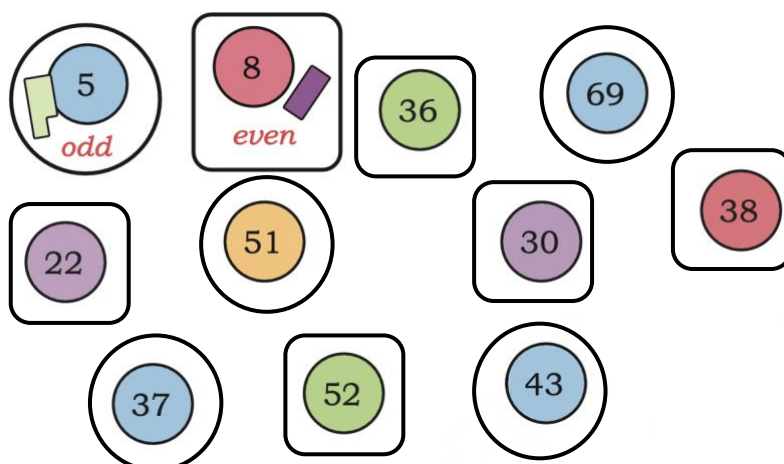
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Crayons Arrangement

Q. Circle the odd numbers and put a square around each even number. Use the crayons arrangement, if needed.



Solution:



Q. Which numbers are even and which are odd? Discuss.

Solution:

Numbers divisible by 2 are called even numbers (e.g., 42, 30, 28), and numbers not divisible by 2 are called odd numbers (e.g., 17, 91, 47).

Q. Shirley observes an interesting even-odd pattern in the page numbers of her Maths book. Explore your textbook and find out what Shirley has seen. Draw a square on the even numbers. Put a circle on the odd numbers.

Solution:

An interesting pattern is that odd-numbered pages are on the right side, while even-numbered pages are on the left.

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Q. Identify which of the following numbers are even and which are odd. Explain your reasoning.



Solution:

Odd numbers: 67, 415, 99.

Even numbers: 30, 46, 78, 300, 154.

Q. Make two 2-digit numbers using the digits 1 and 6 without repetition. Identify the numbers as even or odd.

Solution:

16 and 61. 16 is even and 61 is odd.

Q. Now choose any two digits and make 2-digit numbers in such a way that the numbers are even.

Solution:

Digits: 4 and 7

Numbers: 47 and 74. 47 is odd and 74 is even.

Q. Are there more even or odd numbers between 1 and 100?

Solution:

There are 50 odd and 50 even numbers between 1 and 100.

Q. Shirley notices that both the numbers, before and after an odd number, are even. Shiv wonders if both the numbers, before and after an even number, will be odd. What do you think? Check and discuss.

Solution:

Yes, Shiv is right. An even number always lie between two odd numbers when counted in order. For example, in 3, 4, 5 — 4 is even, and both 3 and 5 are odd.

Q. Choose any 10 numbers in order without skipping any (consecutive numbers). Write whether they are even or odd below each number. What do you notice? Discuss.

Solution:



Even and odd numbers appear in alternate patterns.