

Grade 4 - Number and Shape Patterns - Worksheet

Common Core 4.OA.C.5 · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

This worksheet has 20 problems on number and shape patterns. Problems ask for terms made from a rule, the rule behind a pattern, input-output tables, and features such as odd and even numbers (Common Core 4.OA.C.5).

Grade 4 · Common Core State Standards: **4.OA.C.5**

Exercise 1 - Add 4 pattern

Start at 5. The rule is add 4. Write the first six numbers.

Exercise 2 - Subtract 6 pattern

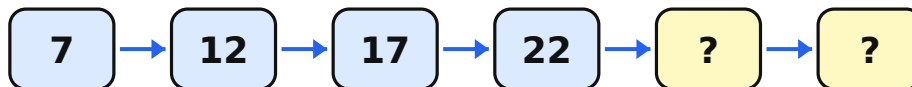
Start at 40. The rule is subtract 6. Write the first six numbers.

Exercise 3 - Multiply by 3 pattern

Start at 2. The rule is multiply by 3. Write the first five numbers.

Exercise 4 - Find the rule

Look at the pattern.



A number pattern with two missing terms.

Write the rule. Then find the two missing numbers.

Exercise 5 - Subtract 15 pattern

Start at 100. The rule is subtract 15. Write the first five numbers.

Exercise 6 - Complete the table

The rule is add 9. Find the missing outputs.

Rule: add 9

Input	3	5	8	10	14
Output	?	?	?	?	?

Outputs are missing.

Exercise 7 - Multiply by 4 table

The rule is multiply by 4. Copy and complete the table.

Input	2	3	5	6	9
Output	?	?	?	?	?

Exercise 8 - Rule from a table

Find the rule for this table.

Input	2	4	6	8
Output	7	9	11	13

Exercise 9 - All odd numbers

Start at 1 and add 2 each time. Write the first six numbers and describe what you notice about odd and even.

Exercise 10 - Odd and even take turns

Start at 3 and add 5 each time. Write the first six numbers. Describe the pattern of odd and

even numbers.

Exercise 11 - All even numbers

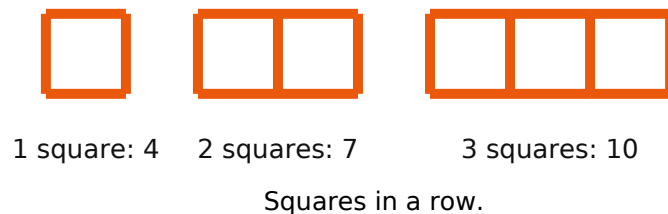
Start at 4 and add 6 each time. Write the first six numbers. Are the terms odd or even? Explain why the rule makes this happen.

Exercise 12 - Doubling pattern

Start at 6 and multiply by 2 each time. Write the first five numbers. What do you notice about the last digits?

Exercise 13 - Toothpick squares

Ethan makes squares in a row with toothpicks.



Write the rule for the number of toothpicks. How many toothpicks does he need for 4 squares? For 5 squares?

Exercise 14 - Which numbers appear?

A pattern starts at 1 and adds 3 each time. Which of these numbers will appear in the pattern: 25, 29, 34?

Exercise 15 - Jar of coins

Jamal puts \$12 in a jar on Monday. Each day after that he adds \$4. Write how much is in the jar on each day from Monday to Friday.

Exercise 16 - Packs of fish

A pet store sells fish in packs of 6. Make a table for 1, 2, 3, 4, 5 and 8 packs. How many fish are in each?

Exercise 17 - Triangle sticks

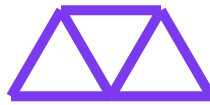
Priya builds a row of triangles with sticks.



1 triangle: 3



2 triangles: 5



3 triangles: 7

Triangles made of sticks.

Continue the pattern. How many sticks does she need for 10 triangles?

Exercise 18 - Draining tank

A tank holds 200 gallons. It loses 25 gallons each hour. The table shows the first hours.

Gallons left each hour

Input	0	1	2	3	4	5
Output	200	175	150	125	?	?

Hours and gallons in the tank.

How many gallons are left after 5 hours? After how many hours is the tank empty?

Exercise 19 - Mei's rule

Mei starts at 7 and adds 8 each time. Will 63 be in her pattern? Will 100? Explain without writing every term for 100.

Exercise 20 - Sofia's tenth term

A pattern starts at 4 and adds 5 each time: 4, 9, 14, 19, and so on. Sofia says the 10th number is 49. Is she right? Show how you know.