# Practice

**Lesson 1**

**1.** Complete an addition table like this using patterns. Describe the patterns you used.

| + | 2 | 4 | 6 | 8 | 10 |
|---|---|---|---|---|---|
| 10 | 12 | 14 | | 18 | 20 |
| 11 | 13 | | 17 | 19 | |
| 12 | | 16 | 18 | | 22 |
| 13 | | | 19 | | |

row (across) -

column (down) -

diagonal -

**Lesson 2**

**2.** Olivia made this pattern using toothpicks.

shape 1 shape 2 shape 3 shape 4 shape 5 shape 6 shape 7

**a)** How many toothpicks will she need for 10 shapes? Use a table.

**b)** Describe the pattern in the second column.

oothpick Shapes

| Total number of shapes | Total number of toothpicks |
|---|---|
| 1 | 4 |
| 2 | 10 |
| 3 | 14 |

**Lesson 3**

**3.** Sean used a table to record how many people could sit at all the picnic tables in the park.

Picnic Tables

| Number of picnic tables | Total number of people |
|---|---|
| 1 | 8 |
| 2 | 16 |
| 3 | 24 |
| 4 | 32 |

**a)** Model the pattern.

**b)** If the pattern continues, how many people can sit at 7 picnic tables?

| AUGUST | | | | | | |
|---|---|---|---|---|---|---|
| Sun. | Mon. | Tues. | Wed. | Thurs. | Fri. | Sat. |
| | | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 | 31 | | |

**Lesson 4**

**4.** In August, Nicky did a crossword puzzle every 5 days. She did a word search puzzle every 3 days. How many times in August did she do both types of puzzles on the same day?

**Lesson 5**

**5.** What is the missing number in each equation?

**a)** $\square + 9 = 22$

**b)** $27 = \square - 5$

**c)** $45 + \square = 60$

**d)** $32 - \square = 25$

**6.** At the start of a game, Kelly gave each player the same amount of play money. The total number of dollars Kelly gave the players made this pattern:

16, 32, 48, 64, ....

**a)** Write an equation with a missing number to represent how the pattern changes.

**b)** How much play money did each player get at the start of the game?

**Lesson 6**

**7.** Manuel is saving for a pair of running shoes that cost $89. He still needs $42. How much has he saved already? Use an equation to solve the problem.

**Lesson 7**

**8.** Jade's goal is to save 500 pennies. She already has 256. How many more pennies does Jade need to meet her goal? Use an equation to solve the problem.

## What Do You Think Now?

Look back at **What Do You Think?** on page 3. How have your answers and explanations changed?

test - answer Key

# Practice (Gr.4) - Ch.1 Patterns - STUDY GUIDE

**Lesson 1**

1. Complete an addition table like this using patterns.
   Describe the patterns you used.

| + | 2 | 4 | 6 | 8 | 10 |
|---|---|---|---|---|---|
| 10 | 12 | 14 | 16 | 18 | 20 |
| 11 | 13 | 15 | 17 | 19 | 21 |
| 12 | 14 | 16 | 18 | 20 | 22 |
| 13 | 15 | 17 | 19 | 21 | 23 |

across - start at 12 add 2 each time

down - start at 20 add 1 each time

diagonal - start at 20 subtract 1 each time

**Lesson 2**

2. Olivia made this pattern using toothpicks.


shape 1 shape 2 shape 3 shape 4 shape 5 shape 6 shape 7

a) How many toothpicks will she need for 10 shapes? Use a table. 50

b) Describe the pattern in the second column.
Start at 4, add 6 then add 4 each time

Toothpick Shapes

| Total number of shapes | Total number of toothpicks | |
|---|---|---|
| 1 | 4 | +6 |
| 2 | 10 | +4 |
| 3 | 14 | +6 |
| 4 | 20 | +4 |
| 5 | 24 | +6 |
| 6 | 30 | +4 |
| 7 | 34 | +6 |
| 8 | 40 | +4 |
| 9 | 44 | +6 |
| 10 | 50 | |

**Lesson 3**

3. Sean used a table to record how many people could sit at all the picnic tables in the park.

Picnic Tables

| Number of picnic tables | Total number of people | |
|---|---|---|
| 1 | 8 | |
| 2 | 16 | |
| 3 | 24 | |
| 4 | 32 | +8 |
| 5 | 40 | +8 |
| 6 | 48 | +8 |
| 7 | 56 | |

a) If the pattern continues, how many people can sit at 7 picnic tables? 56 people


**Lesson 4**

**4.** In August, Nicky did a crossword puzzle every 5 days. She did a word search puzzle every 3 days. How many times in August did she do both types of puzzles on the same day? 2 twice

X puzzle every 5 days
O word search every 3 days

on 15 and 30

**Lesson 5**

**5.** What is the missing number in each equation?

**a)** 13 + 9 = 22

**b)** 27 = 32 − 5

**c)** 45 + 15 = 60

**d)** 32 − 25 = 7

**6.** At the start of a game, Kelly gave each player the same amount of play money. The total number of dollars Kelly gave the players made this pattern:

16, 32, 48, 64, ....

**a)** Write an equation with a missing number to represent how the pattern changes.

16 + □ = 32

**b)** How much play money did each player get at the start of the game?

16 dollars

**Lesson 6**

**7.** Manuel is saving for a pair of running shoes that cost $89. He still needs $42. How much has he saved already? Use an equation to solve the problem.

42 + □ = 89

**Lesson 7**

**8.** Jade's goal is to save 500 pennies. She already has 256. How many more pennies does Jade need to meet her goal? Use an equation to solve the problem.

256 + □ = 500

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