



TIMO practice: Matchstick shapes (with solutions)

12 problems · Grade 1, 2, 3 · answers and solutions at the end

Name _____

Date _____



Practise this type in the Karotto app, with questions read aloud and hints when stuck. Scan the code or visit playkarotto.com

Grade 1

- 1 Making 2 squares in a row like in the picture takes 7 matchsticks. How many matchsticks do you need for 6 squares in a row like this?



Answer: _____

- 2 Making 3 squares in a row like in the picture takes 10 matchsticks. How many matchsticks do you need for 5 squares in a row like this?



Answer: _____

- 3 Making 3 squares in a row like in the picture takes 10 matchsticks. How many matchsticks do you need for 7 squares in a row like this?



Answer: _____

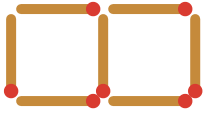
- 4 Making 3 squares in a row like in the picture takes 10 matchsticks. How many matchsticks do you need for 4 squares in a row like this?



Answer: _____

Grade 2

- 5 Making 2 squares in a row like in the picture takes 7 matchsticks. How many matchsticks do you need for 4 squares in a row like this?



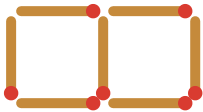
Answer: _____

- 6 Making 2 squares in a row like in the picture takes 7 matchsticks. How many matchsticks do you need for 12 squares in a row like this?



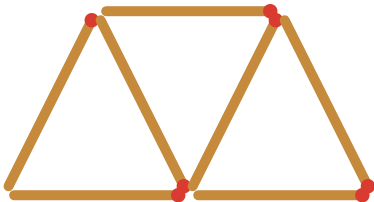
Answer: _____

- 7 Making 2 squares in a row like in the picture takes 7 matchsticks. How many matchsticks do you need for 14 squares in a row like this?



Answer: _____

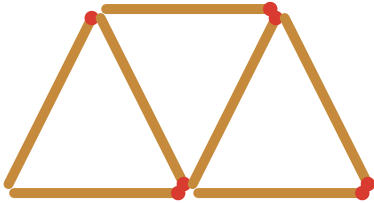
- 8 Making 3 triangles in a row like in the picture takes 7 matchsticks. How many matchsticks do you need for 5 triangles like this?



Answer: _____

Grade 3

- 9 Making 3 triangles in a row like in the picture takes 7 matchsticks. How many matchsticks do you need for 40 triangles like this?



Answer: _____

- 10 Making 3 squares in a row like in the picture takes 10 matchsticks. How many matchsticks do you need for 8 squares in a row like this?



Answer: _____

- 11 Making 3 squares in a row like in the picture takes 10 matchsticks. How many matchsticks do you need for 5 squares in a row like this?



Answer: _____

- 12 Making 3 squares in a row like in the picture takes 10 matchsticks. How many matchsticks do you need for 7 squares in a row like this?



Answer: _____

Answers and solutions: Matchstick shapes

1. Answer: 19 · Grade 1

How to think: The first square needs 4 sticks. Each next square shares 1 stick with the one before it.

Solution: The first square needs 4 sticks, and the 5 squares after it need 3 more each: $4 + 5 \times 3 = 19$ sticks.

2. Answer: 16 · Grade 1

How to think: The first square needs 4 sticks. Each next square shares 1 stick with the one before it.

Solution: The first square needs 4 sticks, and the 4 squares after it need 3 more each: $4 + 4 \times 3 = 16$ sticks.

3. Answer: 22 · Grade 1

How to think: The first square needs 4 sticks. Each next square shares 1 stick with the one before it.

Solution: The first square needs 4 sticks, and the 6 squares after it need 3 more each: $4 + 6 \times 3 = 22$ sticks.

4. Answer: 13 · Grade 1

How to think: The first square needs 4 sticks. Each next square shares 1 stick with the one before it.

Solution: The first square needs 4 sticks, and the 3 squares after it need 3 more each: $4 + 3 \times 3 = 13$ sticks.

5. Answer: 13 · Grade 2

How to think: The first square needs 4 sticks. Each next square shares 1 stick with the one before it.

Solution: The first square needs 4 sticks, and the 3 squares after it need 3 more each: $4 + 3 \times 3 = 13$ sticks.

6. Answer: 37 · Grade 2

How to think: The first square needs 4 sticks. Each next square shares 1 stick with the one before it.

Solution: The first square needs 4 sticks, and the 11 squares after it need 3 more each: $4 + 11 \times 3 = 37$ sticks.

7. Answer: 43 · Grade 2

How to think: The first square needs 4 sticks. Each next square shares 1 stick with the one before it.

Solution: The first square needs 4 sticks, and the 13 squares after it need 3 more each: $4 + 13 \times 3 = 43$ sticks.

8. Answer: 11 · Grade 2

How to think: The first triangle needs 3 sticks. Each next triangle shares 1 stick with the one before it.

Solution: The first triangle needs 3 sticks, and the 4 triangles after it need 2 more each: $3 + 4 \times 2 = 11$ sticks.

9. Answer: 81 · Grade 3

How to think: The first triangle needs 3 sticks. Each next triangle shares 1 stick with the one before it.

Solution: The first triangle needs 3 sticks, and the 39 triangles after it need 2 more each: $3 + 39 \times 2 = 81$ sticks.

10. Answer: 25 · Grade 3

How to think: The first square needs 4 sticks. Each next square shares 1 stick with the one before it.

Solution: The first square needs 4 sticks, and the 7 squares after it need 3 more each: $4 + 7 \times 3 = 25$ sticks.

11. Answer: 16 · Grade 3

How to think: The first square needs 4 sticks. Each next square shares 1 stick with the one before it.

Solution: The first square needs 4 sticks, and the 4 squares after it need 3 more each: $4 + 4 \times 3 = 16$ sticks.

12. Answer: 22 · Grade 3

How to think: The first square needs 4 sticks. Each next square shares 1 stick with the one before it.

Solution: The first square needs 4 sticks, and the 6 squares after it need 3 more each: $4 + 6 \times 3 = 22$ sticks.
