

Triangular Pattern, released item #2 (CMA150Q02)

PISA 2022

Triangular Pattern
Question 2 / 3

Refer to "Triangular Pattern" on the right. Click on a choice to answer the question.

If Alex were to extend the pattern to a fifth row, what would be the percentage of blue triangles in all five rows of the pattern?

40.0%
 50.0%
 60.0%
 66.7%

TRIANGULAR PATTERN

Alex drew the following pattern of red and blue triangles.

The first four rows of the pattern are shown below.

The second item in the unit builds off the first item by again asking students to compute the percentage of blue triangles, but this time it is based on five rows of the pattern. Since the fifth row is not shown, students have to extend the pattern by one row to determine new values for the number of blue triangles and the total number of triangles. With five rows, the percentage of blue triangles is 40.0% (10 blue triangles ÷ 25 total triangles).

This item is intended to be easy and to get students thinking about extending the pattern beyond what is shown, but not extending the pattern so that it requires generalising. This is a Level 2 item, so it is slightly more difficult than the first item in the unit, possibly because it requires working with a part of the pattern that is not shown but is still an overall easy item for students.

Unit Name – Item #	Triangular Pattern – CMA150Q02
Content Area	Change and relationships
Process	Formulate
Context	Scientific
Item Format	Simple Multiple Choice - Computer Scored
Answer	40.0%
Proficiency Level	2