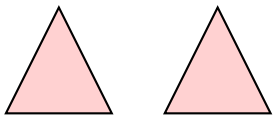
TRANSFORMATIONS

A TYPES OF TRANSFORMATIONS

A.1 IDENTIFYING TYPES OF TRANSFORMATIONS

MCQ 1: Which transformation is shown in the diagram?



Object Image

Choose the correct answer:

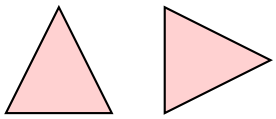
☒ Translation

☐ Reflection

☐ Rotation

Answer: The transformation is a translation because the triangle is moved to the right without flipping or turning.

MCQ 2: Which transformation is shown in the diagram?



Object Image

Choose the correct answer:

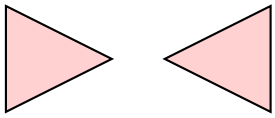
☐ Translation

☐ Reflection

☒ Rotation

Answer: The transformation is a rotation because the triangle is turned 90° clockwise .

MCQ 3: Which transformation is shown in the diagram?



Object Image

Choose the correct answer:

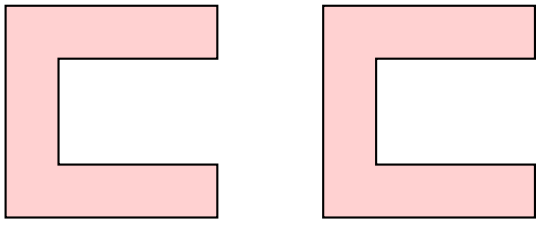
☐ Translation

☒ Reflection

☐ Rotation

Answer: The transformation is a reflection because the triangle is flipped over a vertical line without moving or turning.

MCQ 4: Which transformation is shown in the diagram?



Object Image

Choose the correct answer:

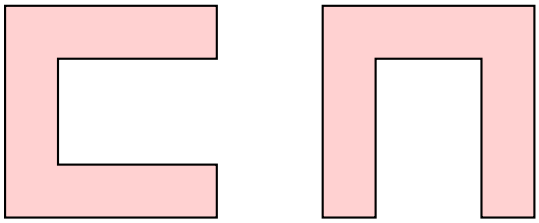
☒ Translation

☐ Reflection

☐ Rotation

Answer: The transformation is a translation because the letter C is moved to the right without flipping or turning.

MCQ 5: Which transformation is shown in the diagram?



Object Image

Choose the correct answer:

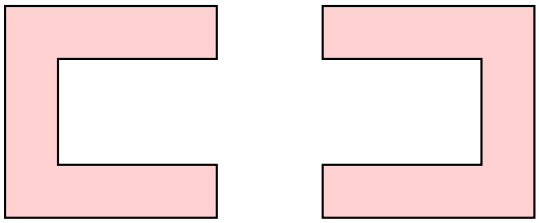
☐ Translation

☐ Reflection

☒ Rotation

Answer: The transformation is a rotation because the triangle is turned 90° clockwise .

MCQ 6: Which transformation is shown in the diagram?



Object Image

Choose the correct answer:

☐ Translation

☒ Reflection

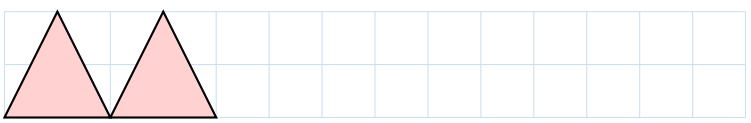
☐ Rotation

Answer: The transformation is a reflection because the triangle is flipped over a vertical line without moving or turning.

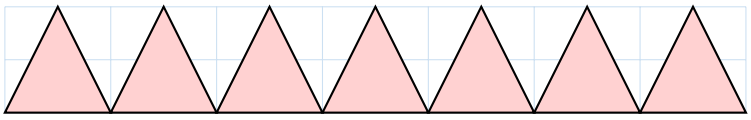
B PATTERNS

B.1 DRAWING PATTERNS

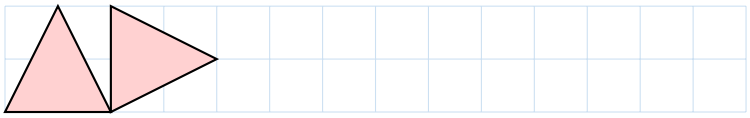
Ex 7: Complete the pattern on grid paper by translating the triangle:



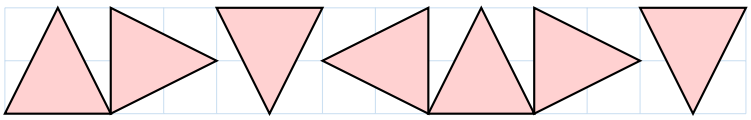
Answer: The pattern is a translation of a triangle 2 units to the right. To complete it, translate the triangle 5 more times, placing each new triangle 2 units to the right of the previous one on the grid. The final pattern has 7 triangles, as shown below:



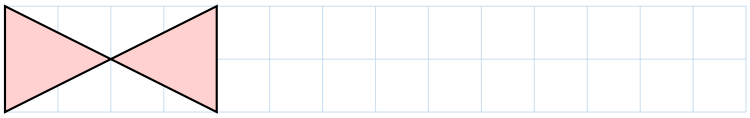
Ex 8: Complete the pattern on grid paper by rotating the triangle:



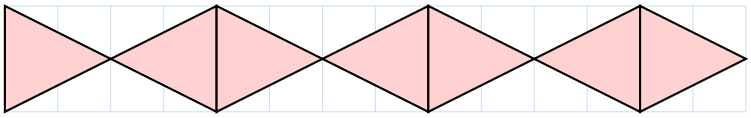
Answer: The pattern combines a 90° clockwise rotation of the triangle around its center with a 2-unit translation to the right. To complete it, perform this transformation 5 more times, placing each new triangle 2 units to the right of the previous one on the grid. The final pattern has 7 triangles, as shown below:



Ex 9: Complete the pattern on grid paper by reflecting the triangle:

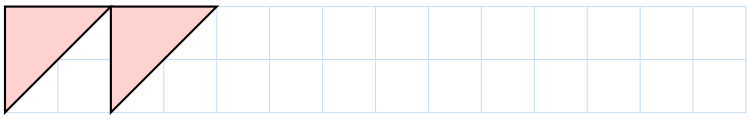


Answer: The pattern is a reflection of the triangle over vertical lines spaced 2 units apart. To complete it, reflect the triangle 5 more times, placing each new triangle over a vertical line 2 units to the right of the previous one on the grid. The final pattern has 7 triangles, as shown below:

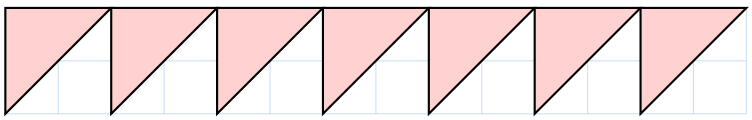


B.2 DRAWING PATTERNS

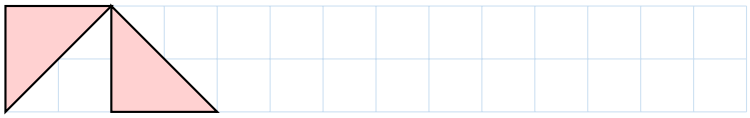
Ex 10: Complete the pattern on grid paper by translating the triangle:



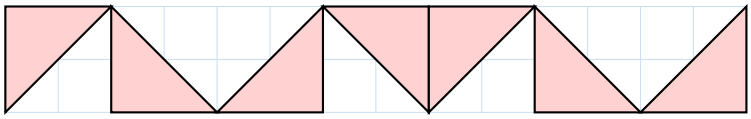
Answer: The pattern is a translation of a triangle 2 units to the right. To complete it, translate the triangle 5 more times, placing each new triangle 2 units to the right of the previous one on the grid. The final pattern has 7 triangles, as shown below:



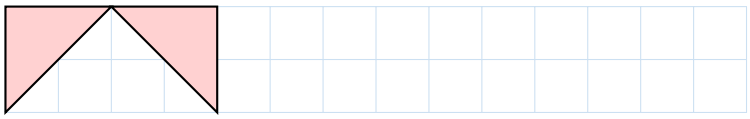
Ex 11: Complete the pattern on grid paper by rotating the triangle:



Answer: The pattern combines a 90° counterclockwise rotation of the triangle around its center with a 2-unit translation to the right. To complete it, perform this transformation 5 more times, placing each new triangle 2 units to the right of the previous one on the grid. The final pattern has 7 triangles, as shown below:



Ex 12: Complete the pattern on grid paper by reflecting the triangle:



Answer: The pattern is a reflection of the triangle over vertical lines spaced 2 units apart. To complete it, reflect the triangle 5 more times, placing each new triangle over a vertical line 2 units to the right of the previous one on the grid. The final pattern has 7 triangles, as shown below: