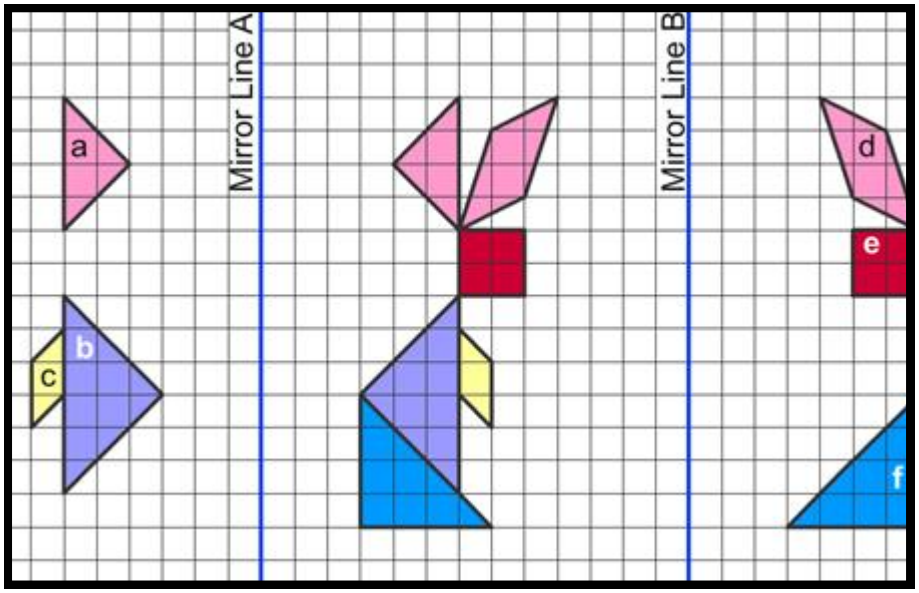
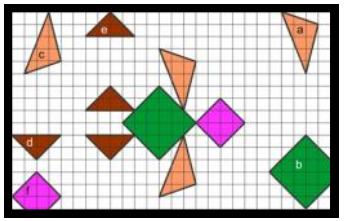
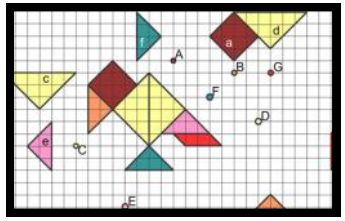
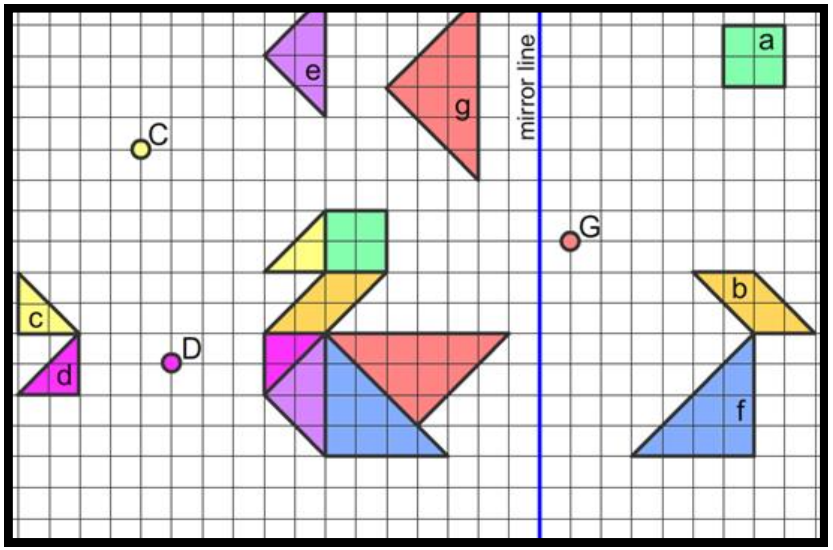
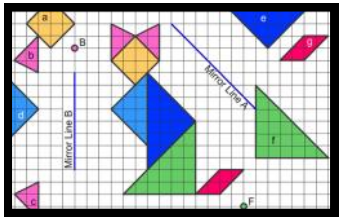
Transformations

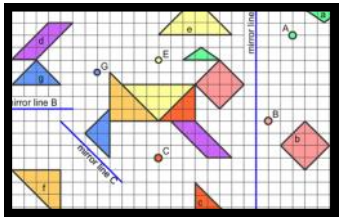












Mystery Picture Pack!

contents

1. **Translations Mystery Picture**

   Suitable for younger students just learning translations and vectors

2. **Reflections Mystery Pictures 1 & 2**

   Also suitable for younger students just starting to learn about reflections in a mirror line. The second version uses the co-ordinates axes and the line y = -x as mirror lines.

3. **Rotations Mystery Pictures 1 & 2**

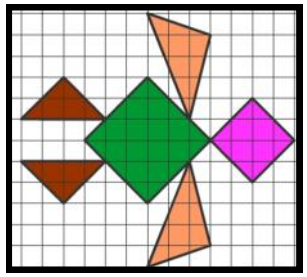
   Students will need to be able to rotate 90 degrees and 180 degrees about a point. Most students will need tracing paper. The first version is on the co-ordinate plane and all rotations are about the origin.

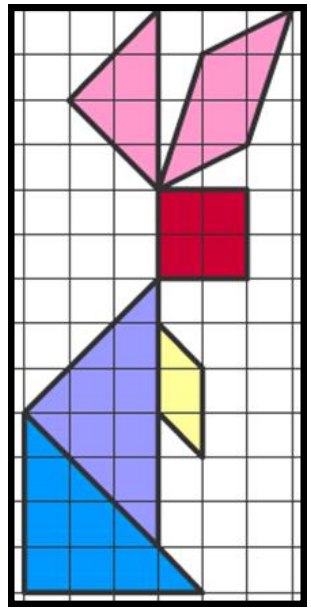
4. **Mixed Transformations Picture 1 & 2**

   These activities require students to use translations, reflections and rotations.

5. **Combined Transformations Picture 1 & 2**

   These are the most difficult pictures to complete and require students to do multiple transformations to each object in order to find its place. The second picture takes place on the co-ordinate plane.





translations mystery picture

1. Translate shape **a** 10 units left and 3 units down.

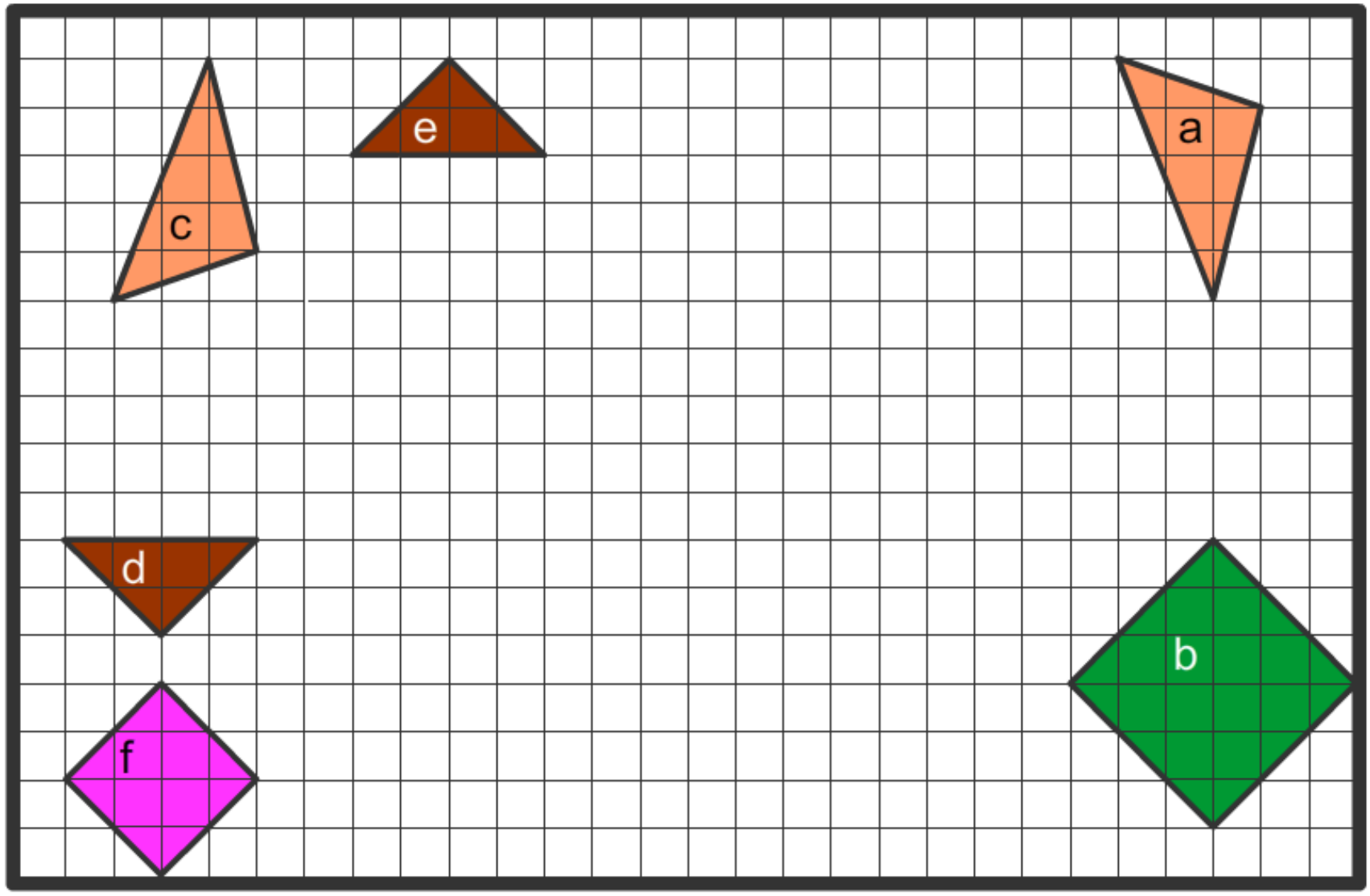
2. Translate shape **b** 12 units left and 4 units up.

3. Translate shape **c** 11 units right and 10 units down.

4. Translate shape **d** 6 units right.

5. Translate shape **e** 6 units down.

6. Translate shape **f** 15 units right and 6 units up.



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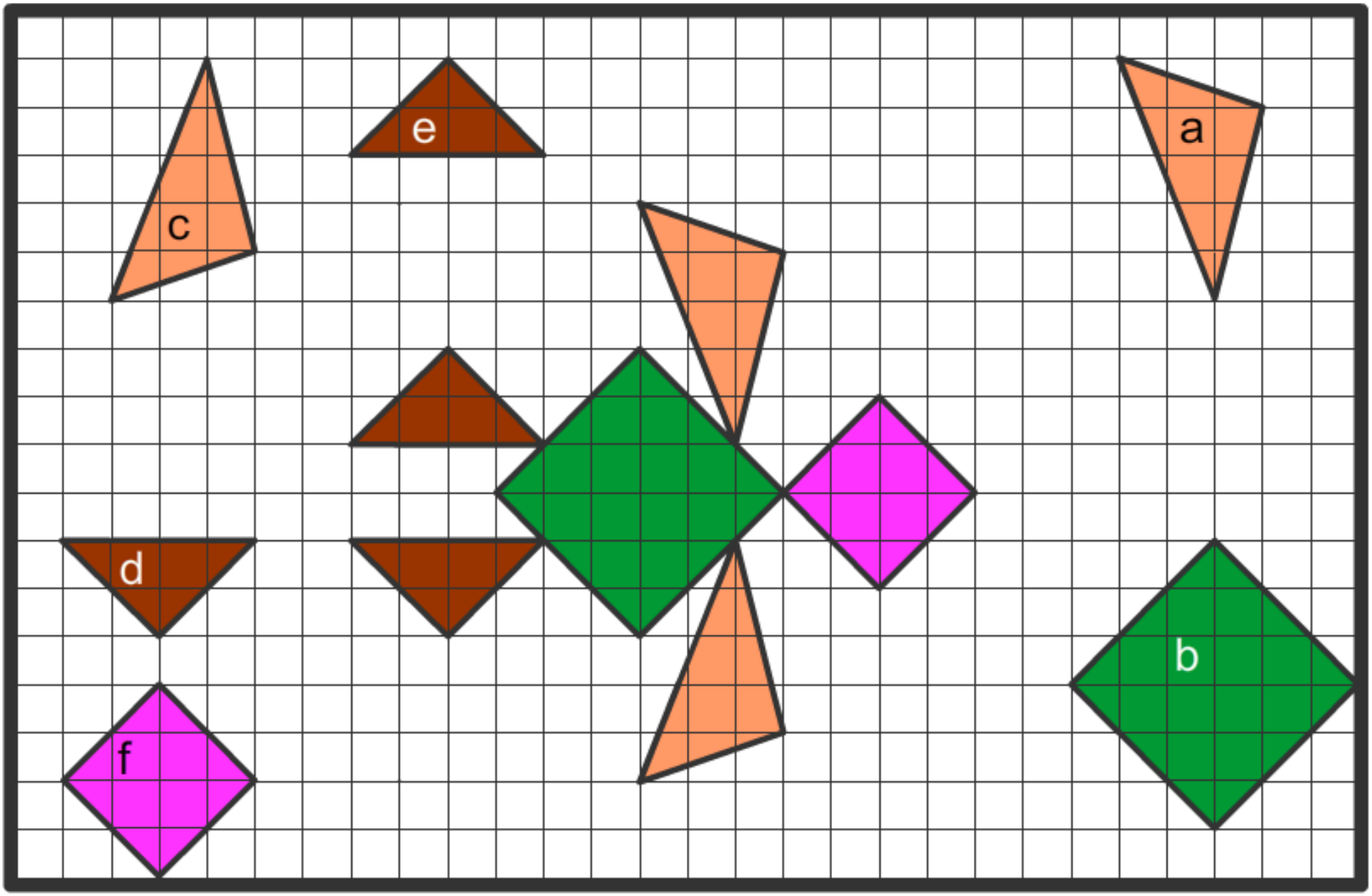

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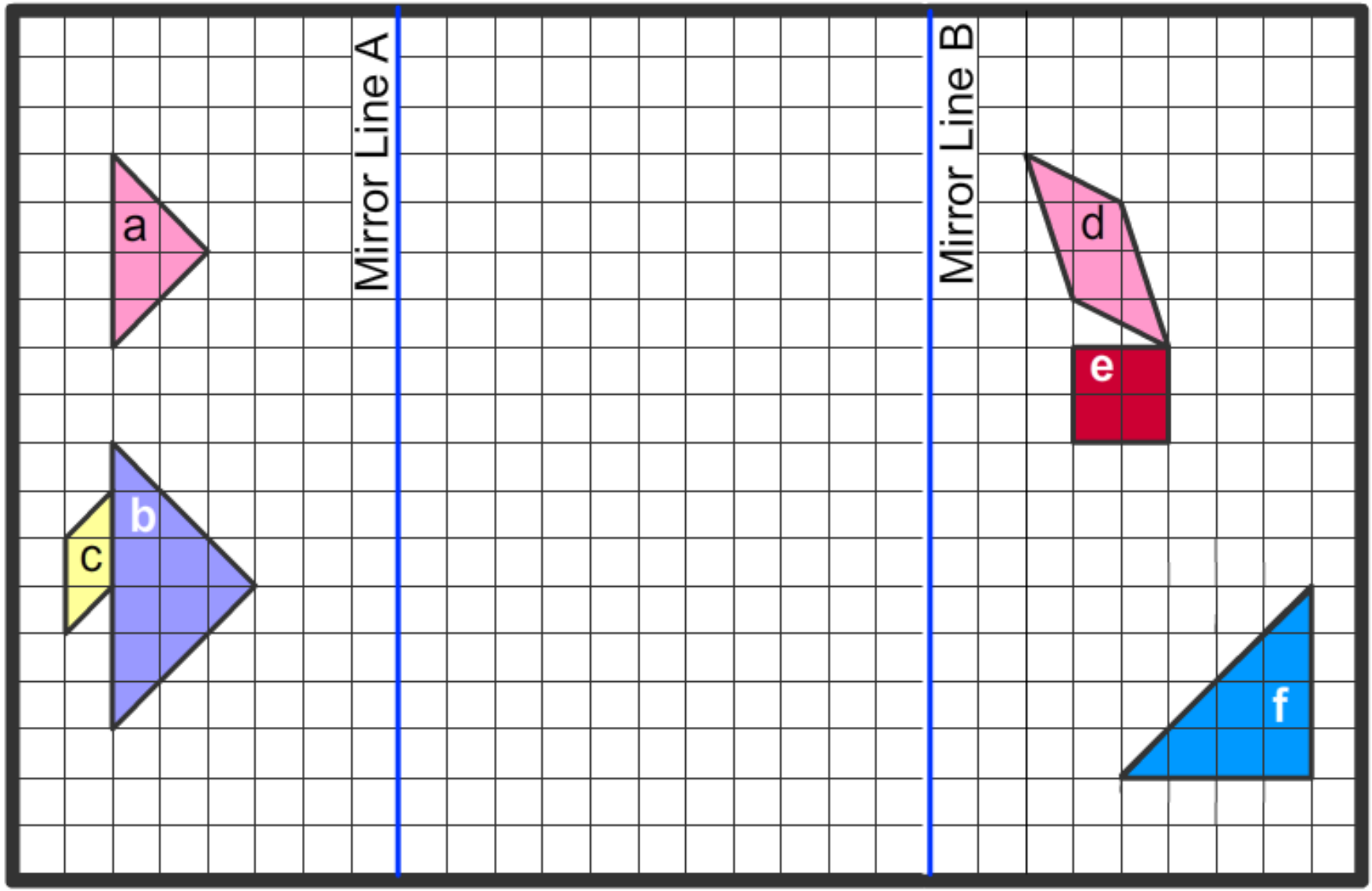
reflections mystery picture

Instructions

Reflect shapes **a**, **b** and **c** in Mirror Line A

Reflect shapes **d**, **e** and **f** in Mirror Line B



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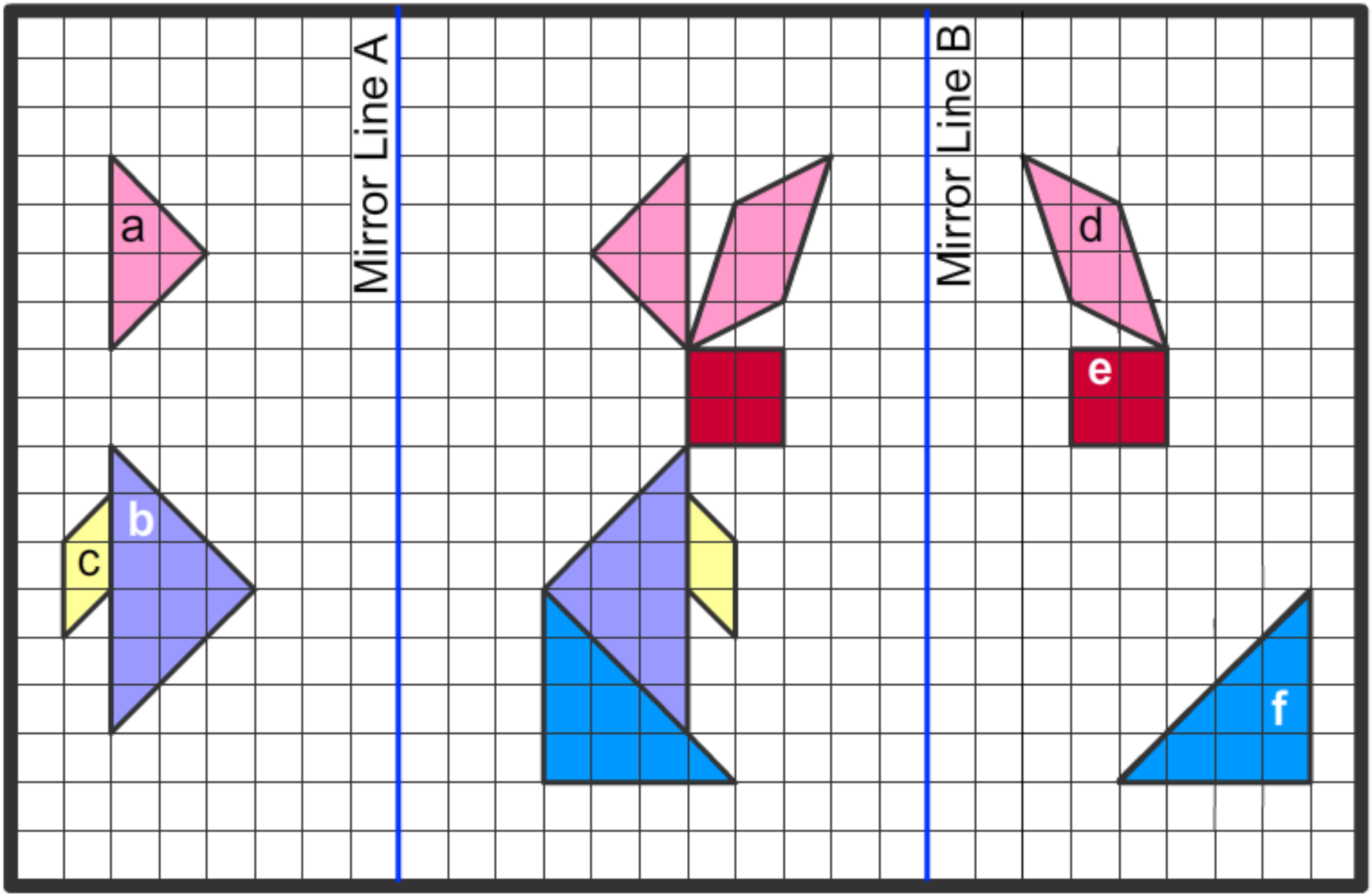
answer



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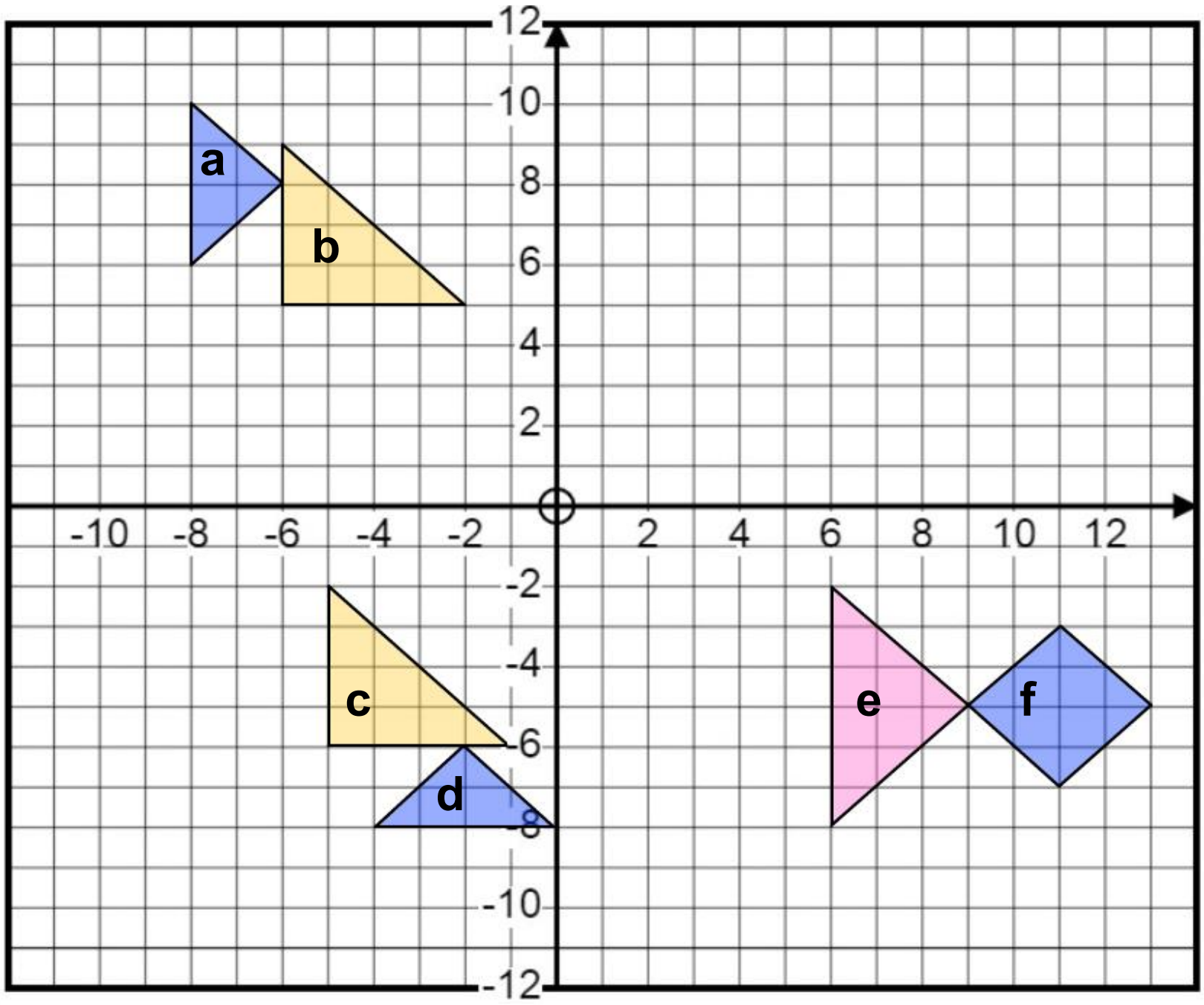
reflections mystery picture 2

Instructions

1. Reflect shapes **a** and **b** in the **y axis.**
2. Reflection shapes **c** and **d** in the line **y = -x**
3. Reflect shapes **e** and **f** in the **x axis.**



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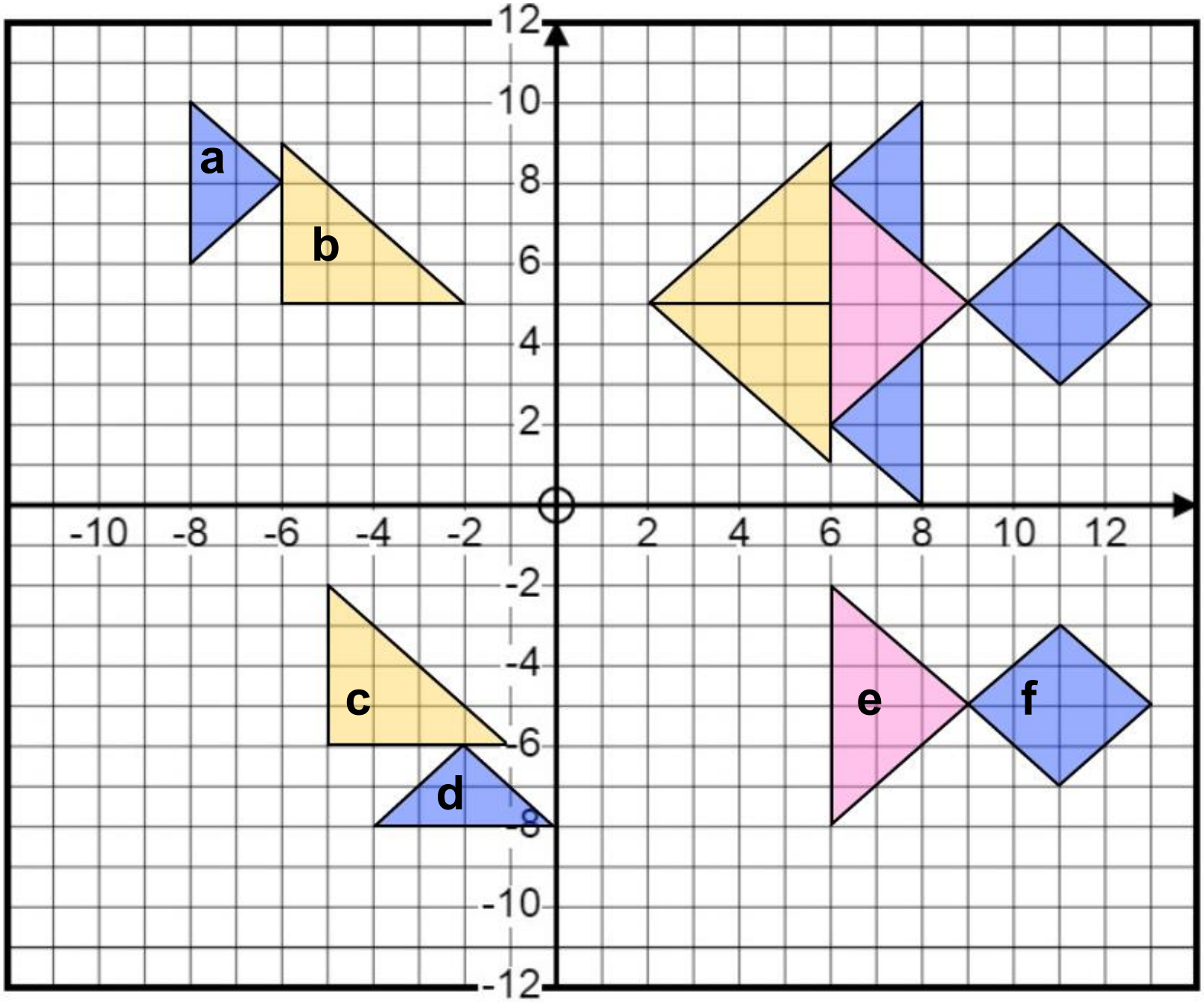


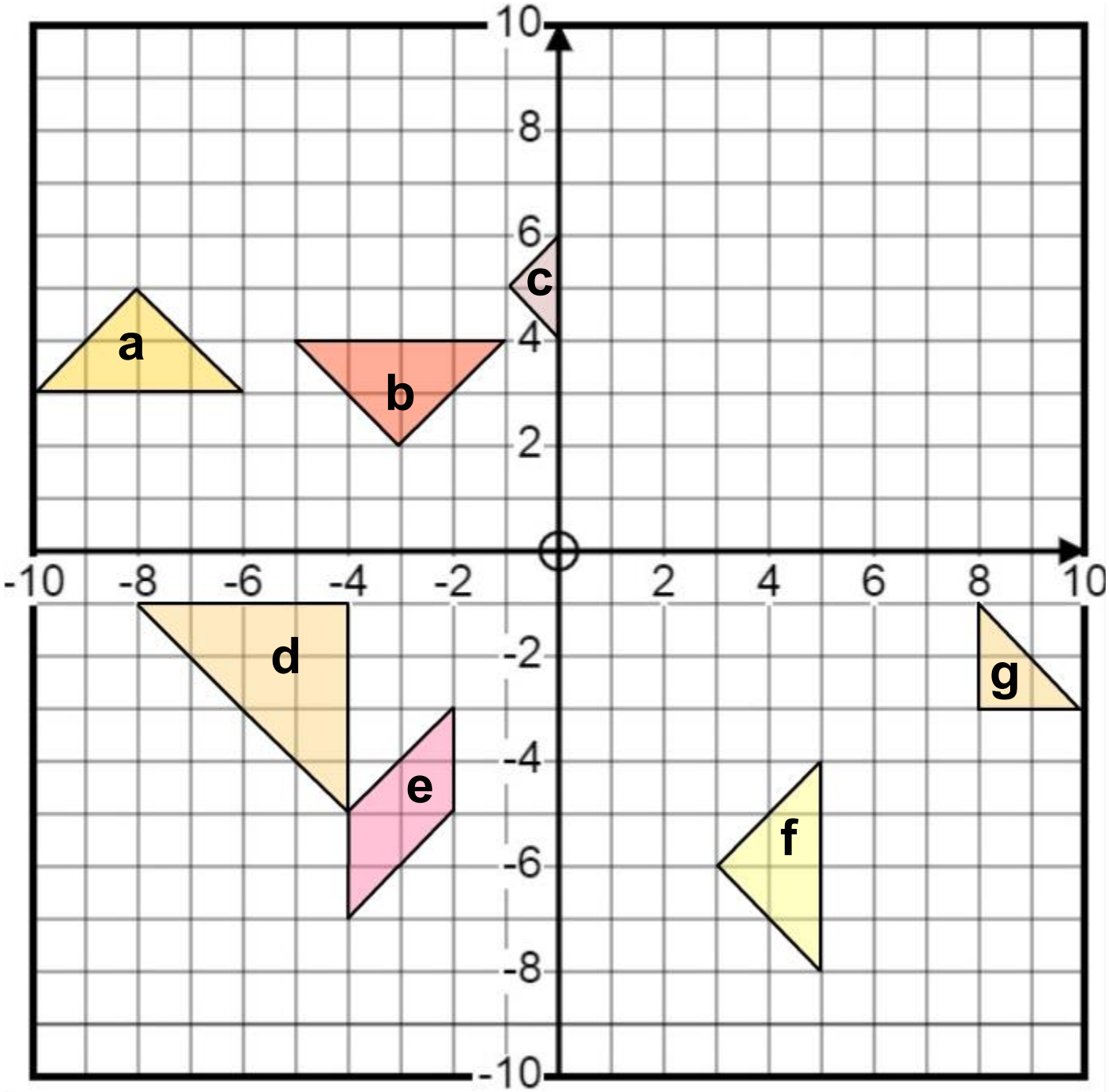
rotations mystery picture 1

Instructions

1. Rotate shapes **a** and **b** and **c** 90° clockwise about the origin**.**

2. Rotate shapes **d** and **e** 180° about the origin**.**

3. Rotate shapes **f** and **g** 90° counter-clockwise about the origin**.**



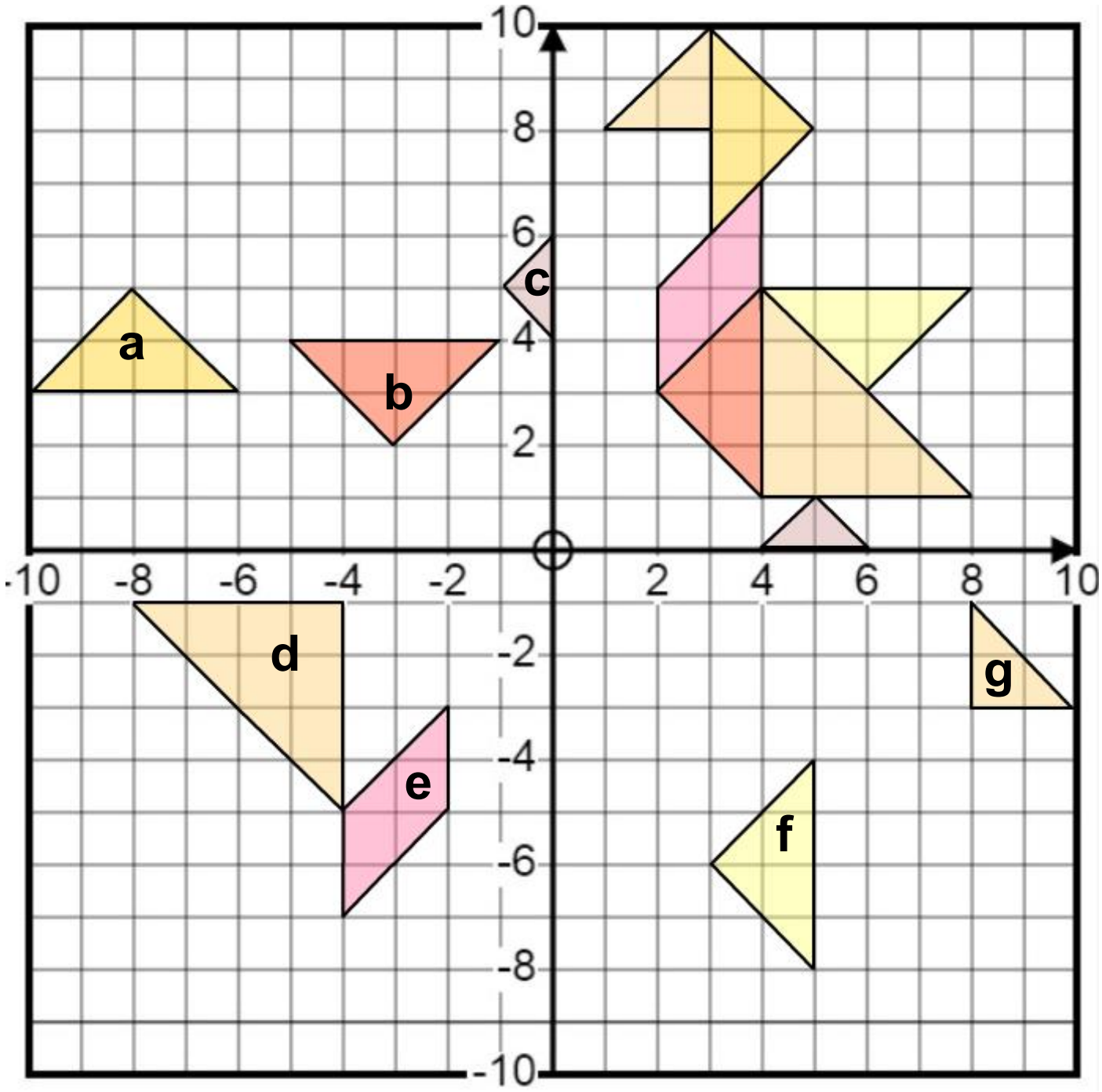
answer

Instructions

1. Rotate shapes **a** and **b** and **c** 90° clockwise about the origin**.**

2. Rotate shapes **d** and **e** 180° about the origin**.**

3. Rotate shapes **f** and **g** 90° counter-clockwise about the origin**.**



rotations mystery picture 2

1.Rotate shape **a** 180° about point A.

2. Rotate shape **b** 90° clockwise about point B.

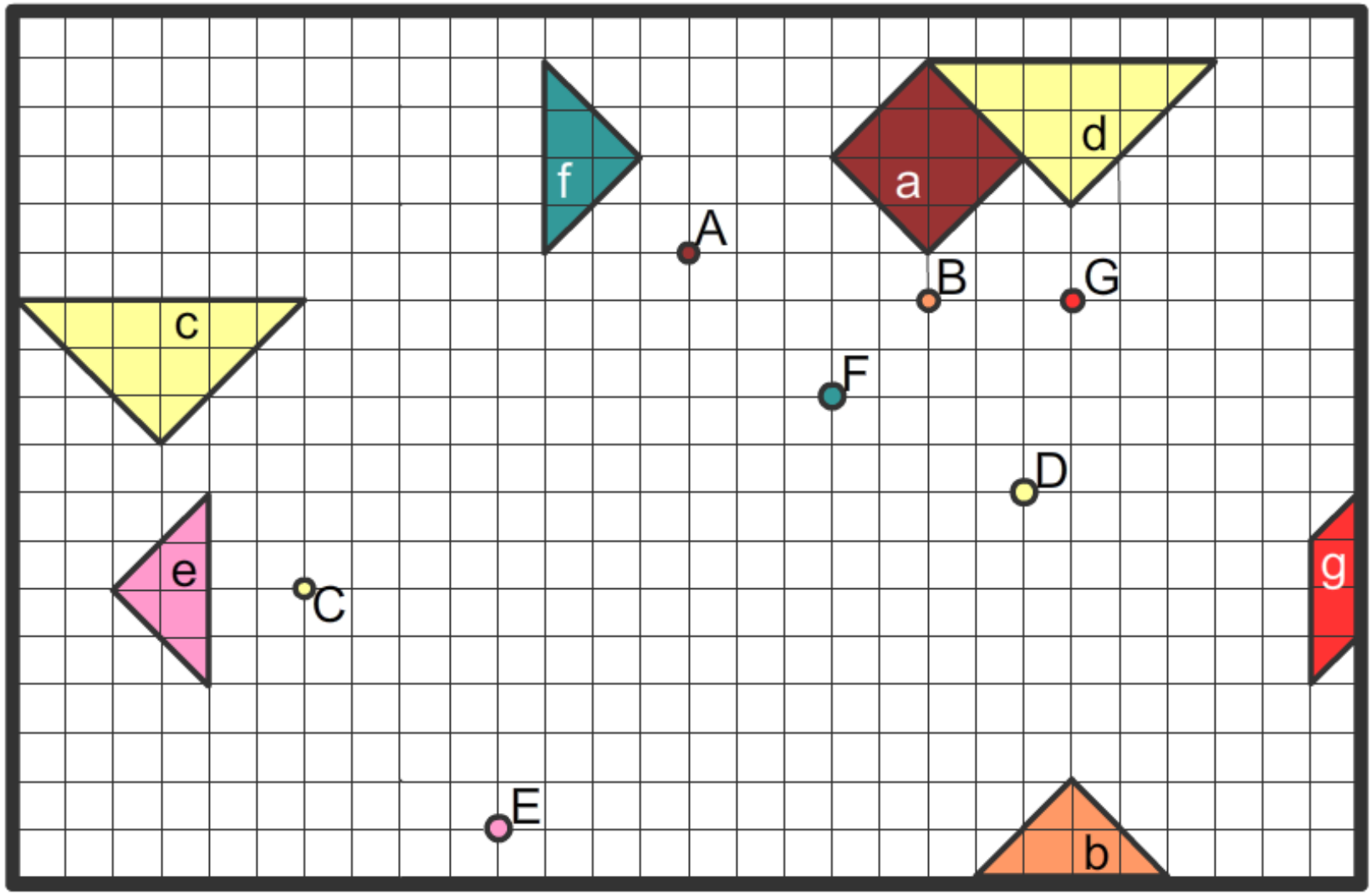
3. Rotate shape **c** 90° clockwise about point C.

4. Rotate shape **d** 90° counter-clockwise about point D.

5. Rotate shape **e** 90° clockwise about point E.

6. Rotate shape **f** 90° counter-clockwise about the point F.

7. Rotate shape **g** 90° clockwise about the point G.



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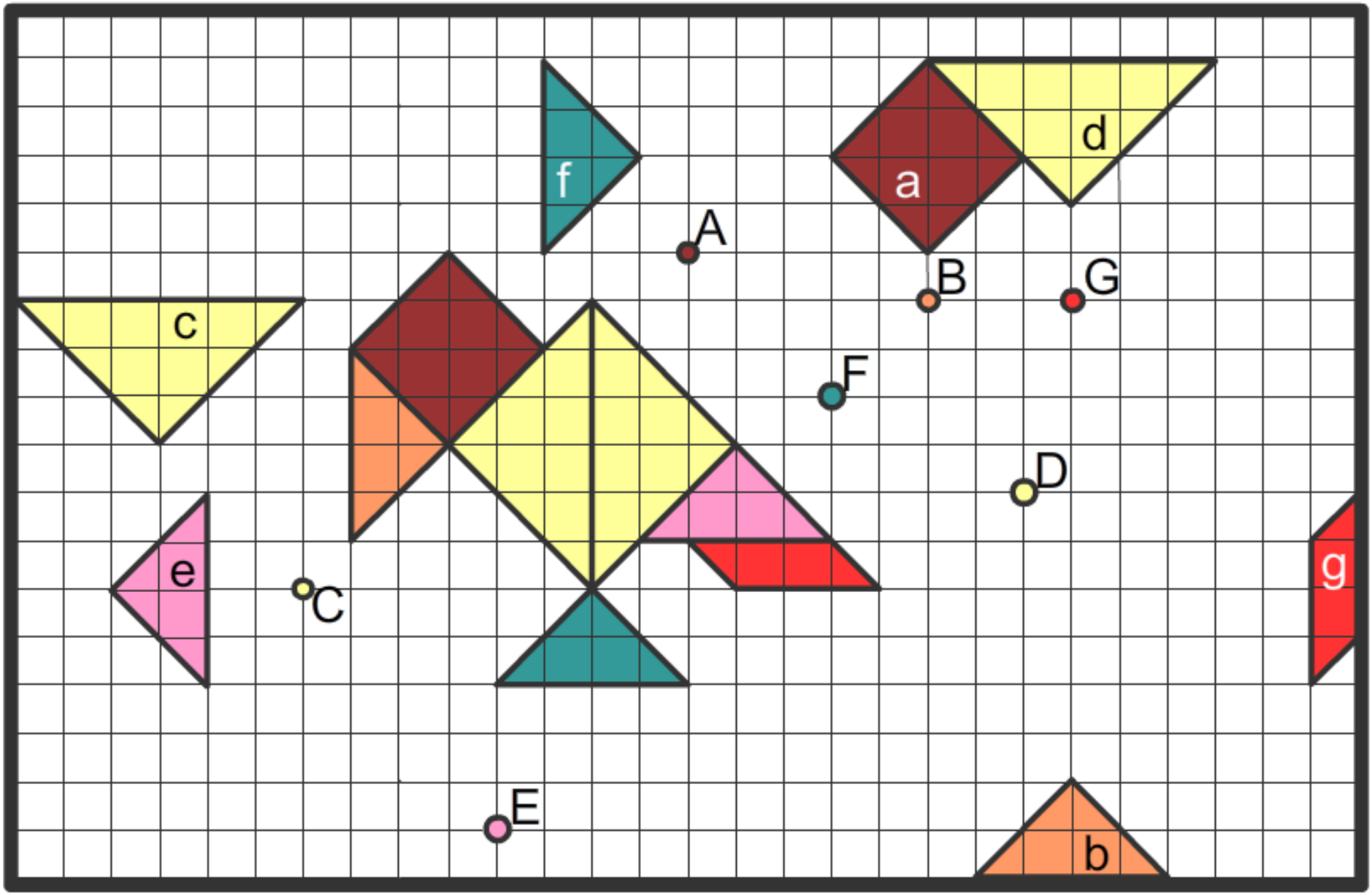
answer



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mixed transformations mystery picture

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1. Translate shape **a** 13 units left and 6 units down.

2. Reflect shape **b** in the mirror line.

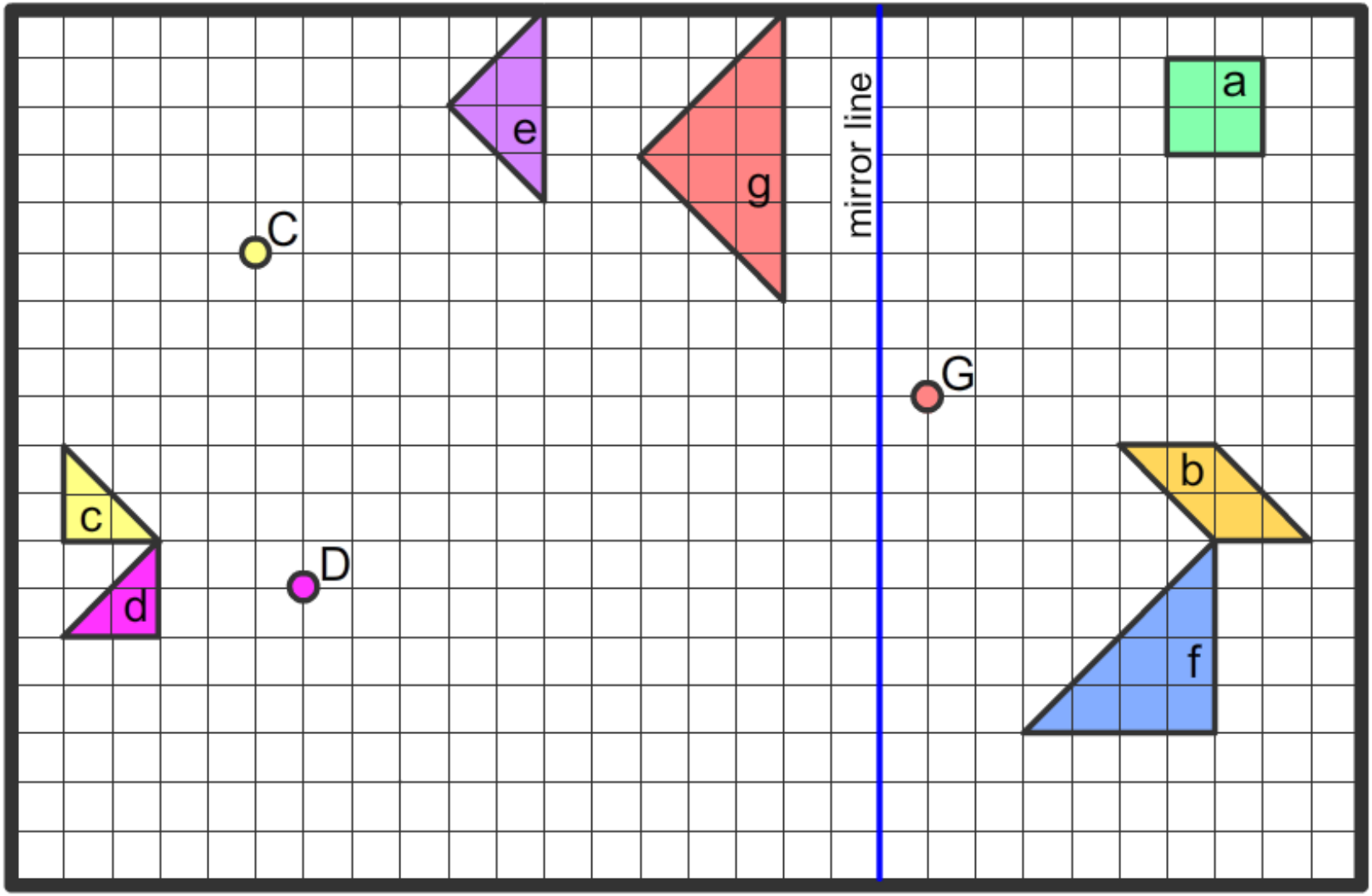
3. Rotate shape **c** 90° counter-clockwise about point C.

4. Rotate shape **d** 180° about point D.

5. Translate shape **e** 11 units down.

6. Reflect shape **f** in the mirror line.

7. Rotate shape **g** 90° counter-clockwise about point G.



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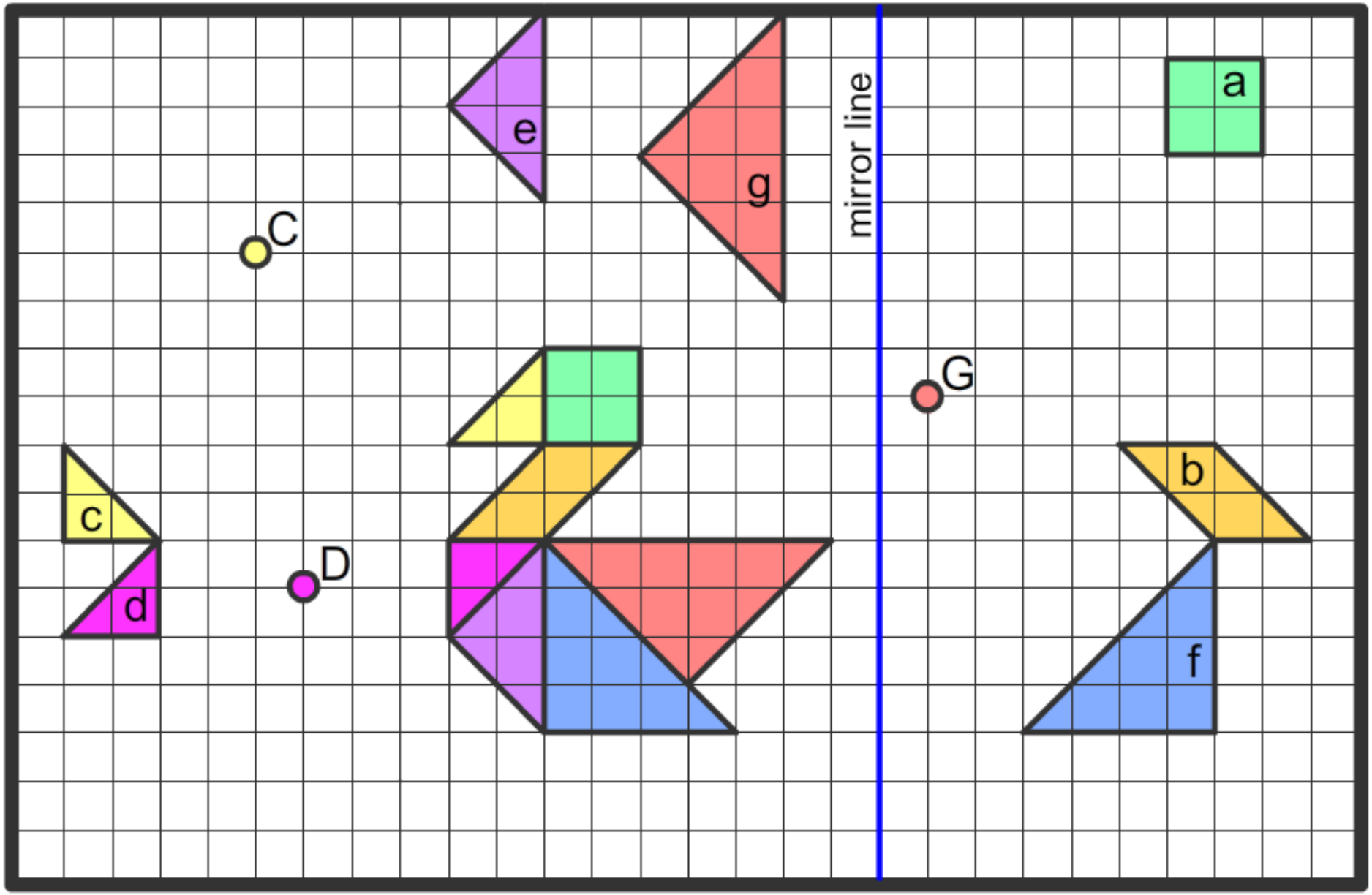

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mixed transformations mystery picture 2

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1. Translate shape **a** 7 units right and 3 units down.

2. Rotate shape **b** 180° about point B.

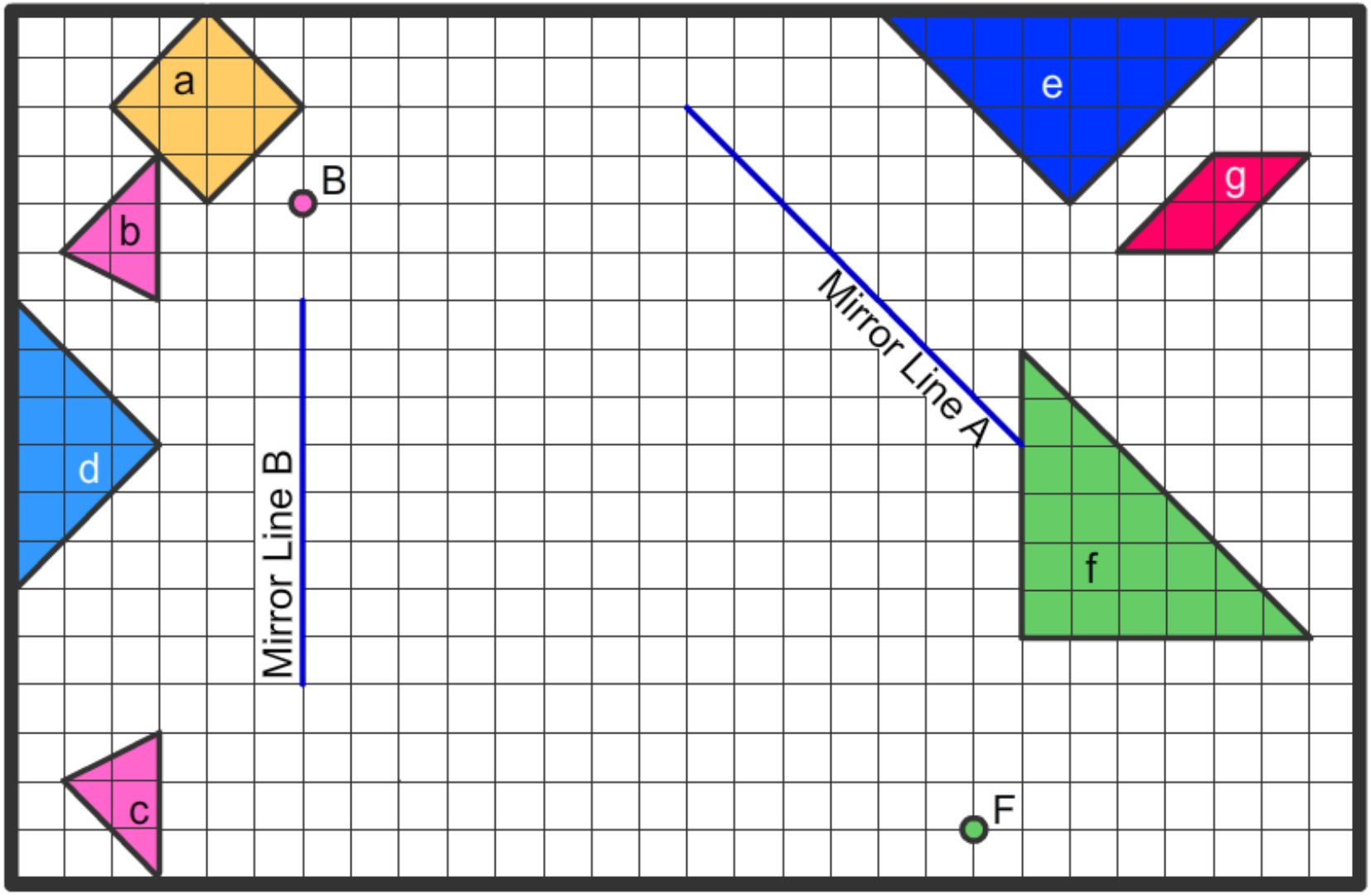
3. Translate shape **c** 10 units to the right and 13 units up.

4. Reflect shape **d** in the mirror line B.

5. Reflect shape **e** in the mirror line A

6 Rotate shape **f** 90° counter-clockwise about F.

7. Translate shape **g** 7 units to the left and 11 units down.



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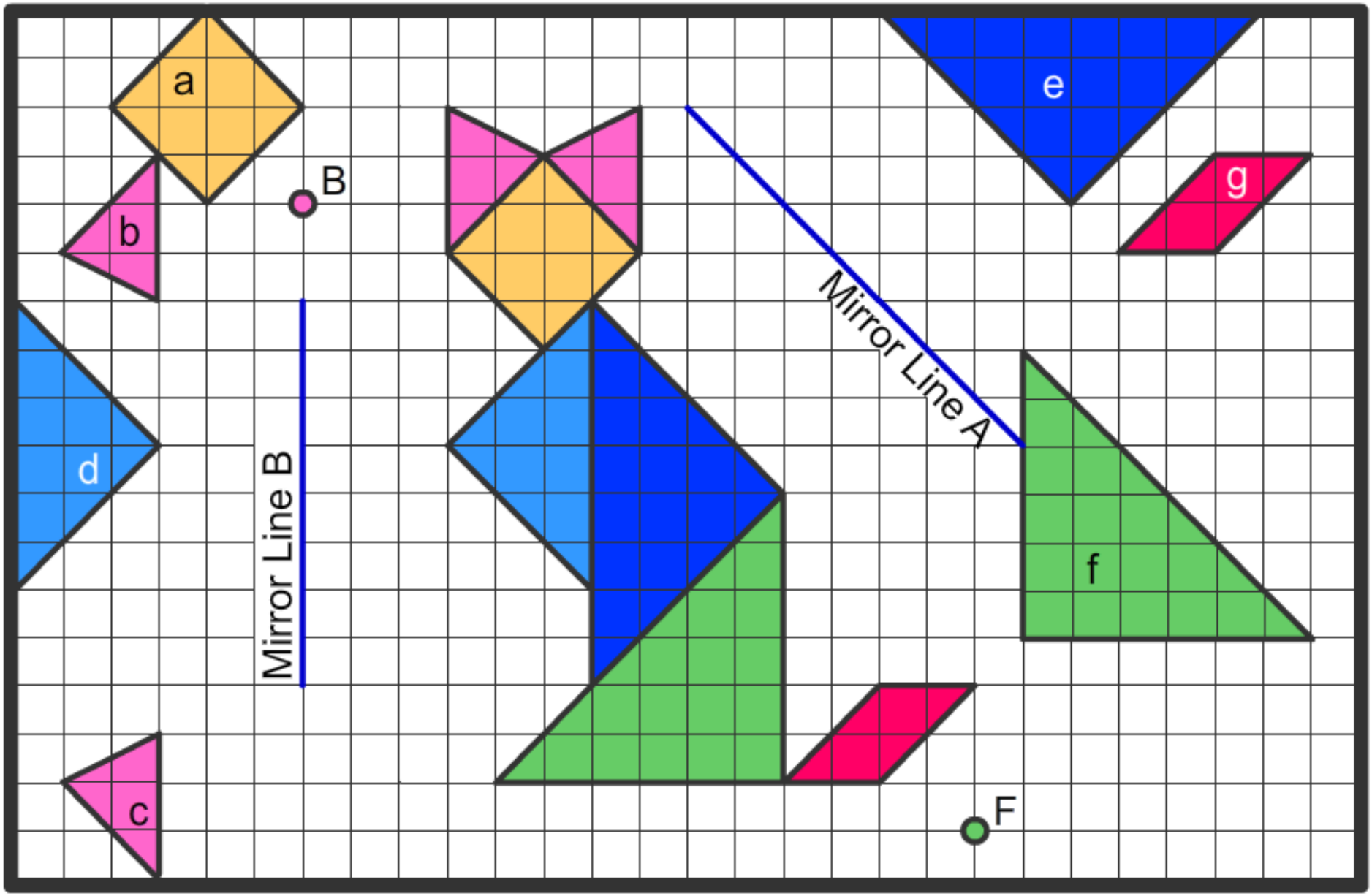

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combined transformations mystery picture

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1. Rotate shape **a** 180° about point A and then translate it 5 units left.

2. Rotate shape **b** 90° counter-clockwise about point B then reflect in mirror line A.

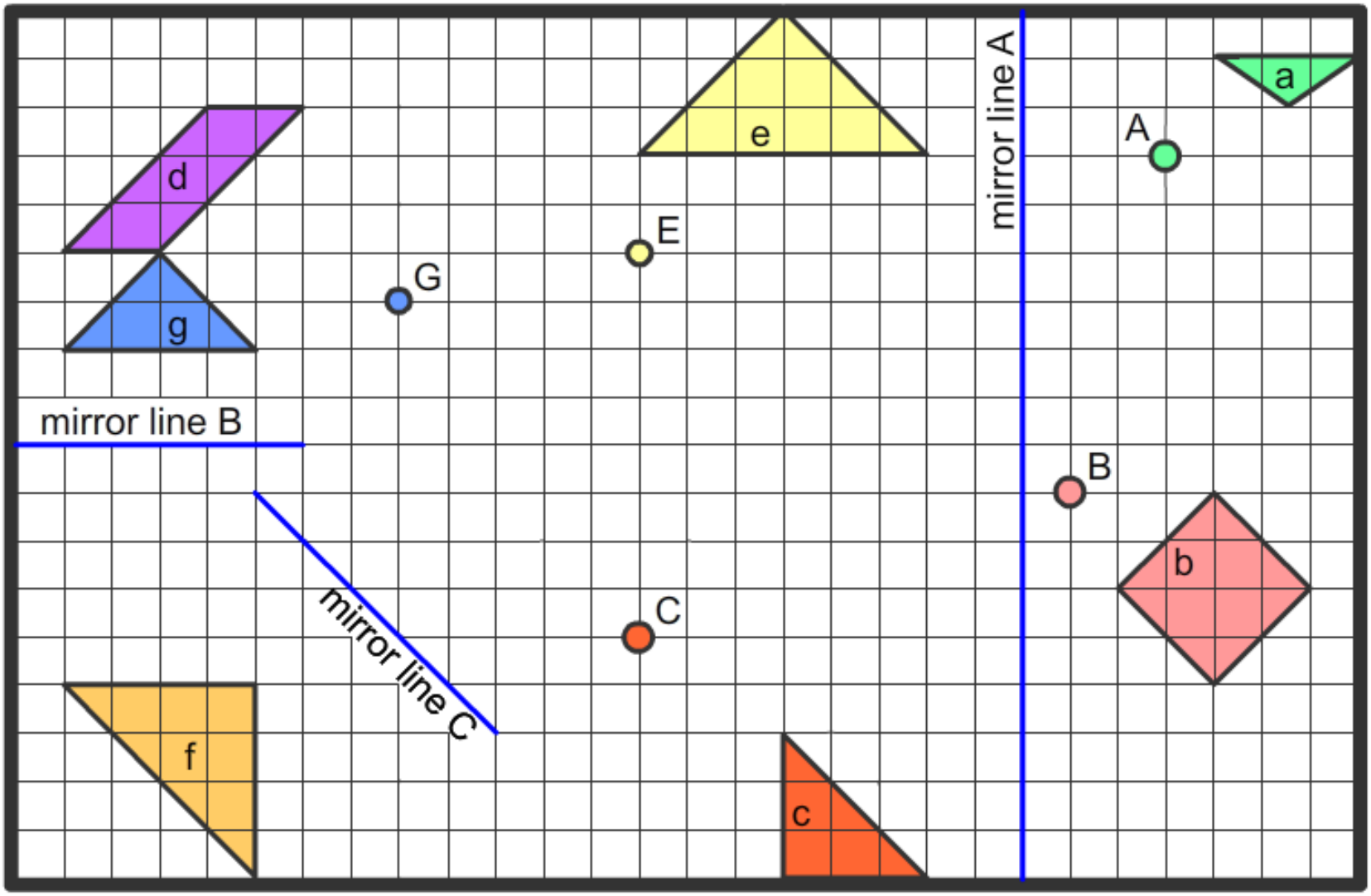
3. Translate shape **c** by the 2 units up and then rotate 90° counter-clockwise about point C.

4. Reflect shape **d** in mirror line B and then translate it 13 units right and 3 units up.

5. Translate shape **e** 3 units left and then rotate it 180° about the point E.

6. Reflect shape **f** in the mirror line C.

7. Rotate shape **g** 90° counter-clockwise about the point marked G.



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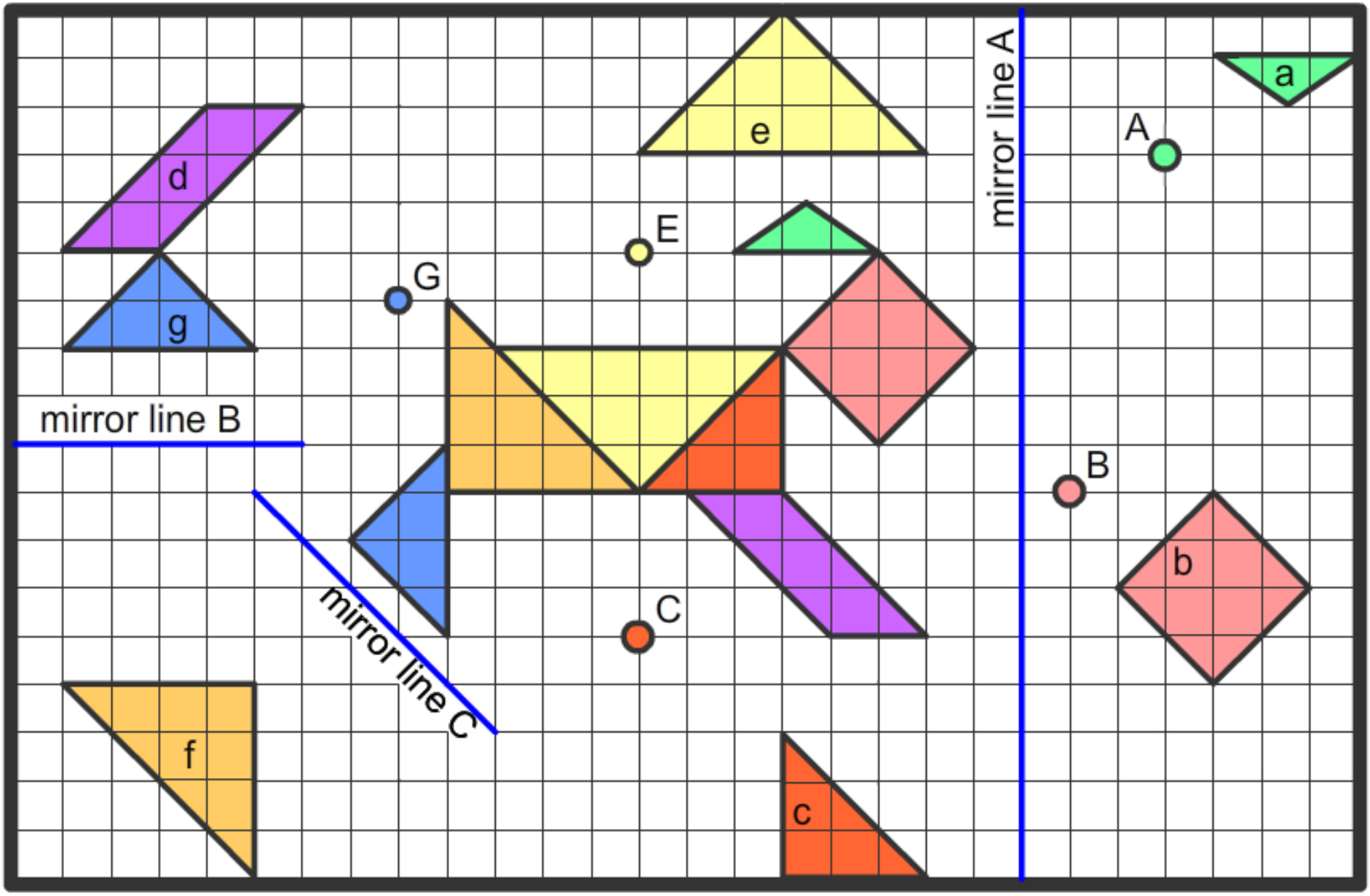

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combined transformations mystery picture 2

1. Translate shape **a** 3 units to the right. Then reflect it in the y axis.

2. Reflect shape **b** in the x axis and then in the line y=-x.

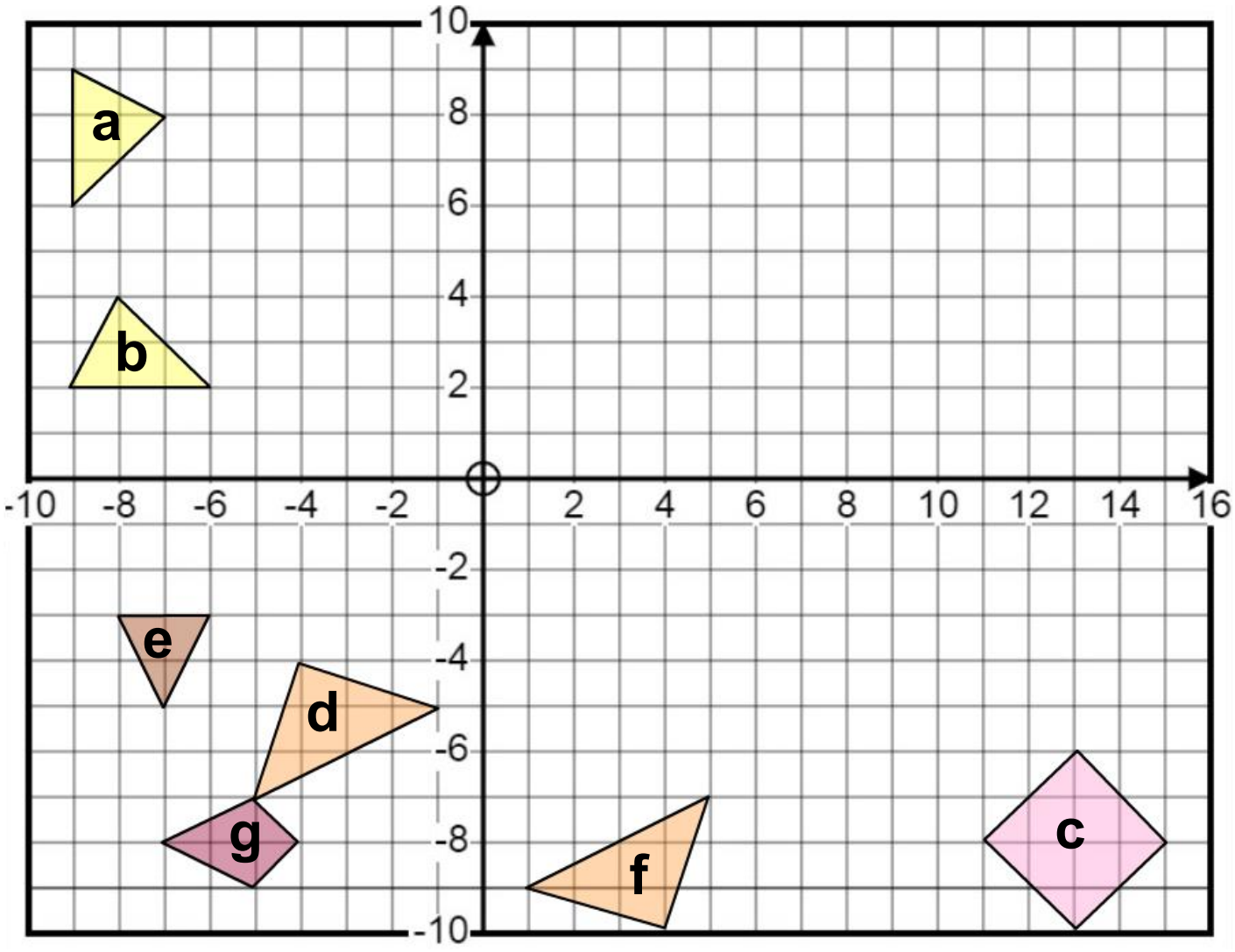
3. Translate shape **c** 9 units left and 2 units up. Then reflect it in the x axis.

4. Reflect shape **d** in the x axis and then rotate it 90° clockwise about the origin.

5. Rotate shape **e** 180° about the origin.

6. Reflect shape **f** in the line y = - x and then reflect it in the x axis.

7. Rotate shape **g** 90° counter-clockwise about the origin. Then translate it 2 units right. Then reflect across the x axis.



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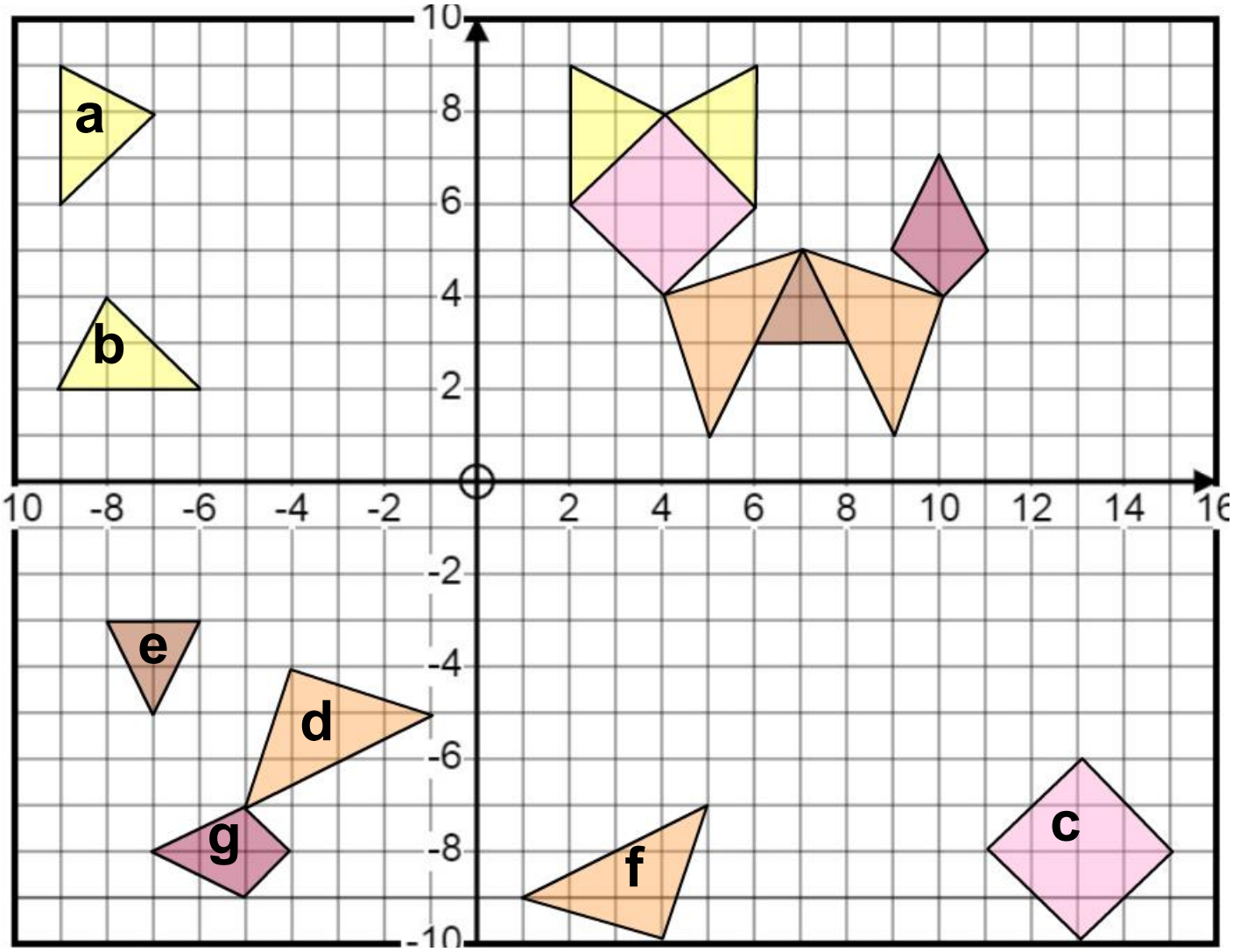

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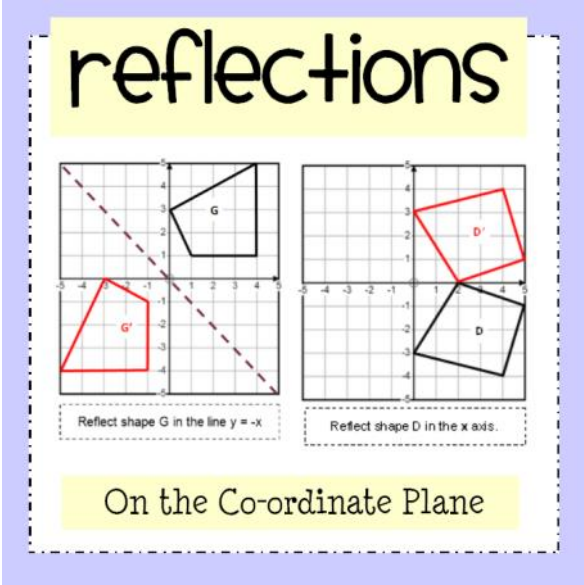

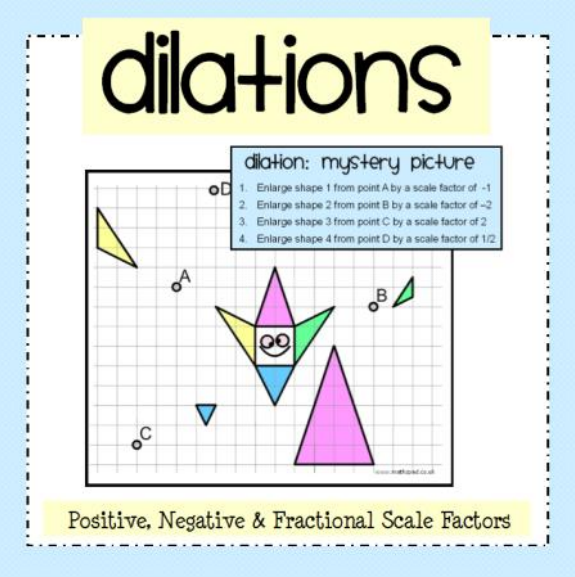

get in touch!

Questions or requests?

Please email me:

nicolawaddilove@gmail.com

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