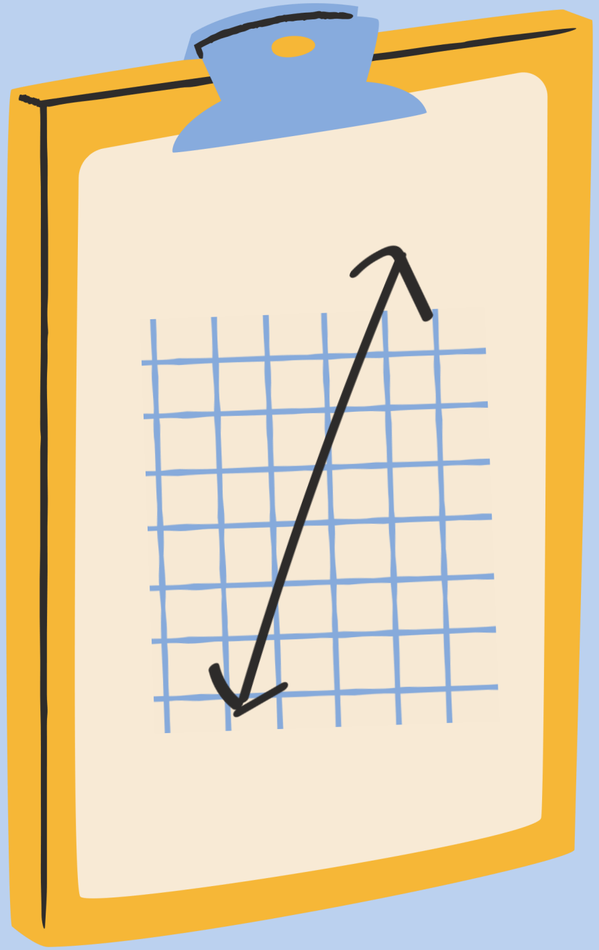
Ach. Ind.: To perform transformations on the plane: rotation, translation, reflection, symmetry, homothecy.

TRANSLATION

INSPIRED BY mathspace



WARM-UP:

- What are the keywords for translation?
- What are the directions used in translations?

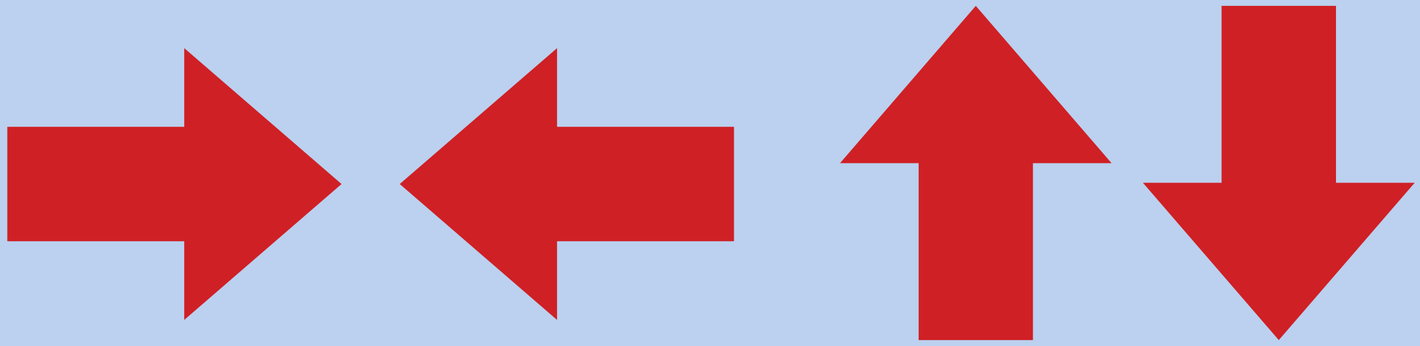
WARM-UP:

- What are the keywords for translation?

  Move or slide.

- What are the directions used in translations?

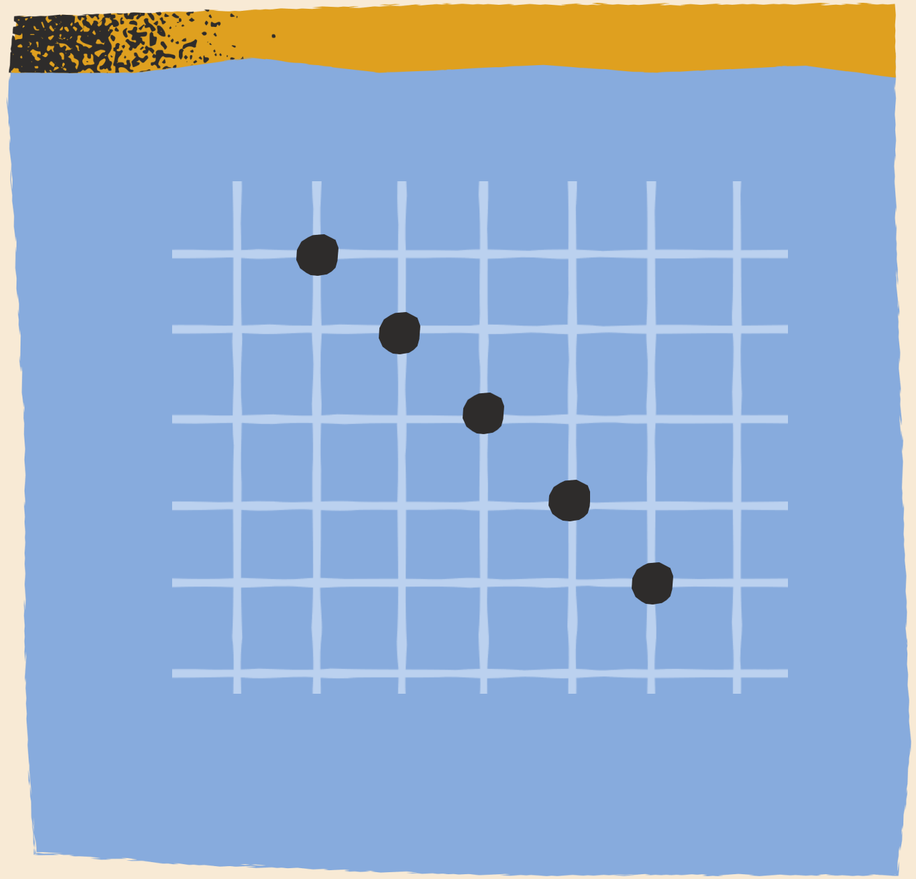
  Right, left, up, down.

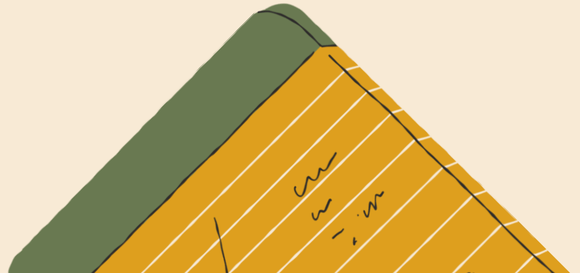


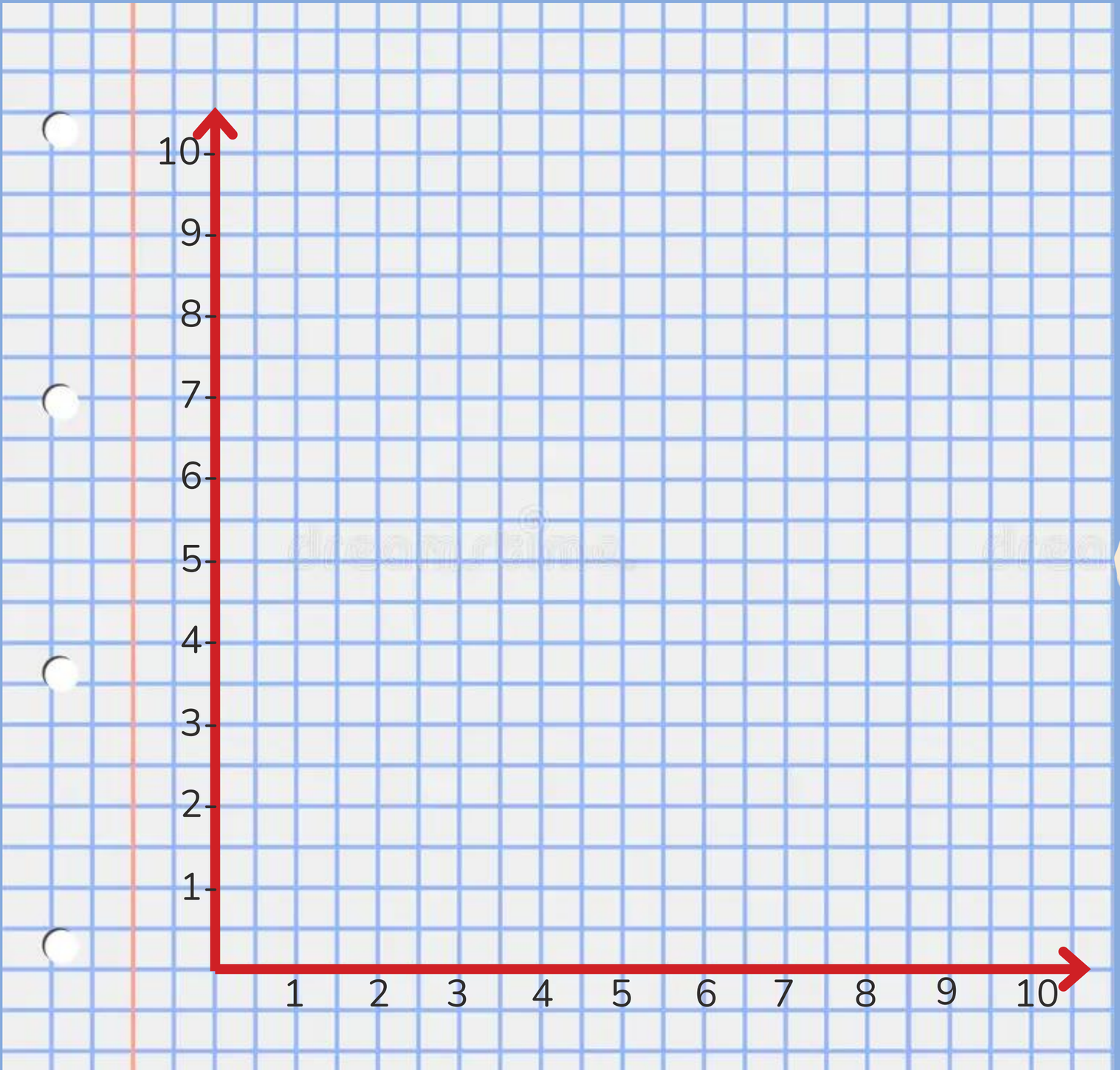
ACTIVITY:

LET'S TRANSLATE A FIGURE IN YOUR NOTEBOOK.

TAKE OUT YOUR RULER

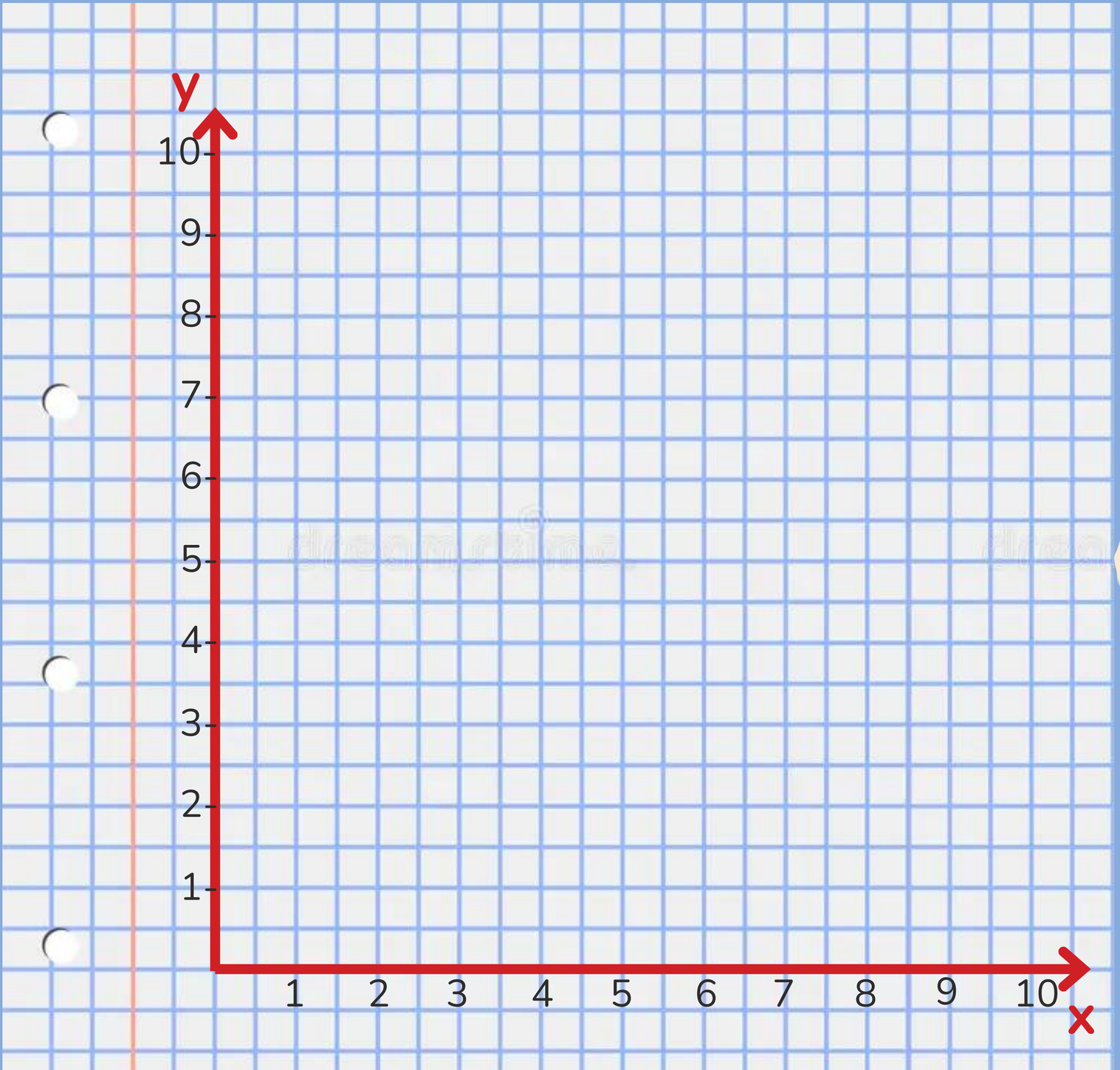




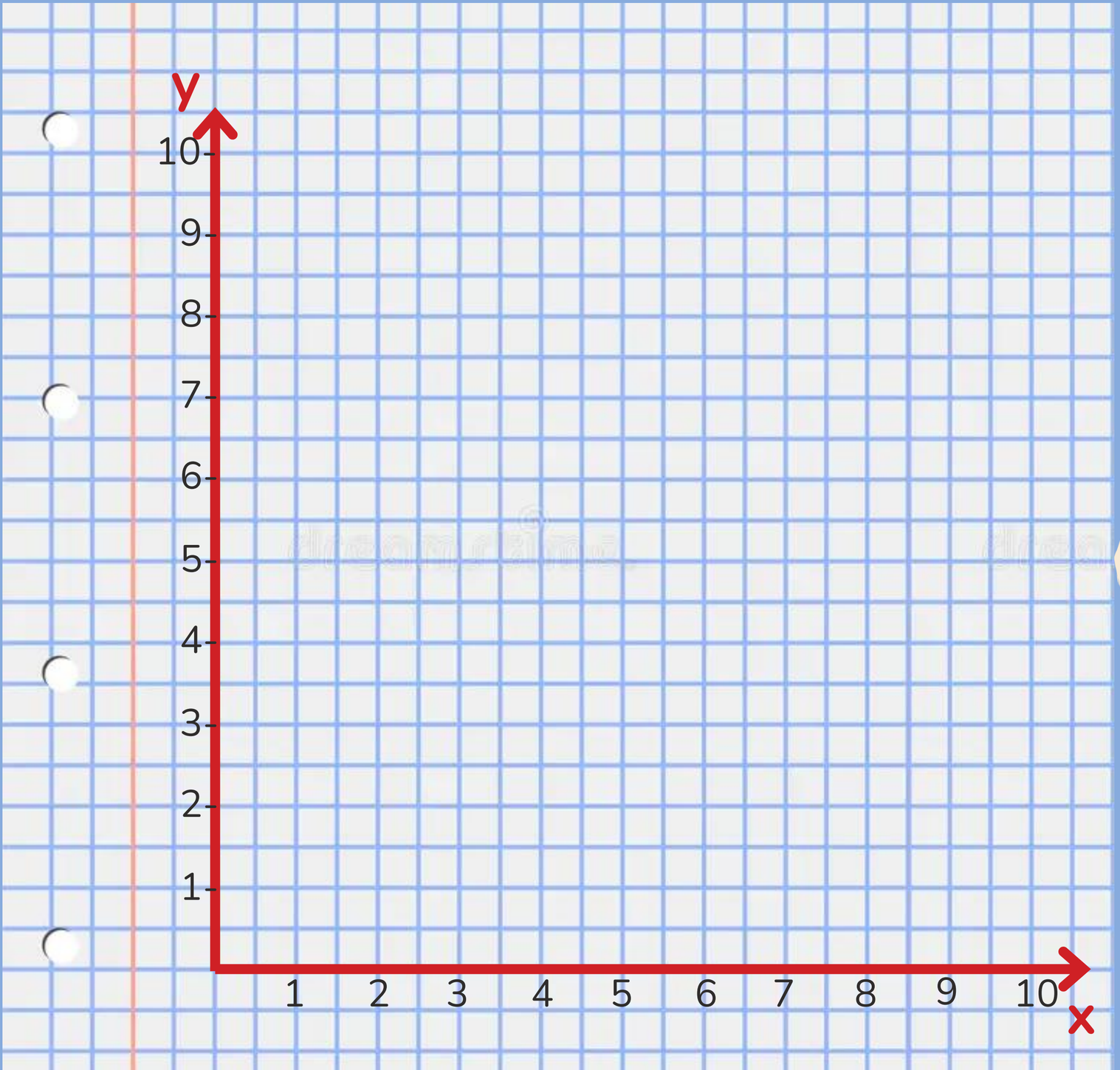


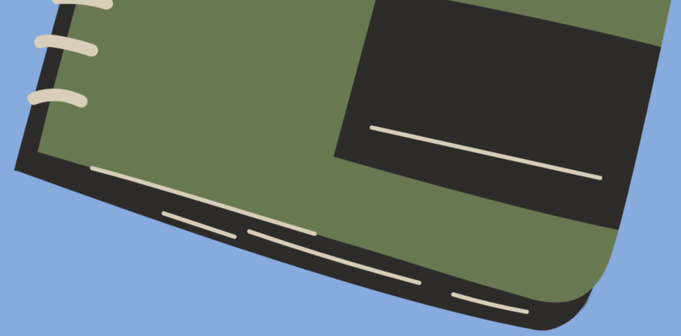
1. NUMBER LINES

10 cm x 10 cm



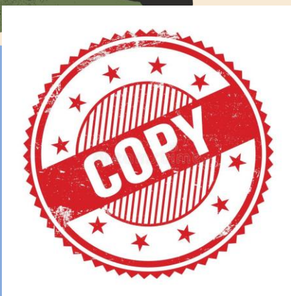
2. LABEL THE AXIS

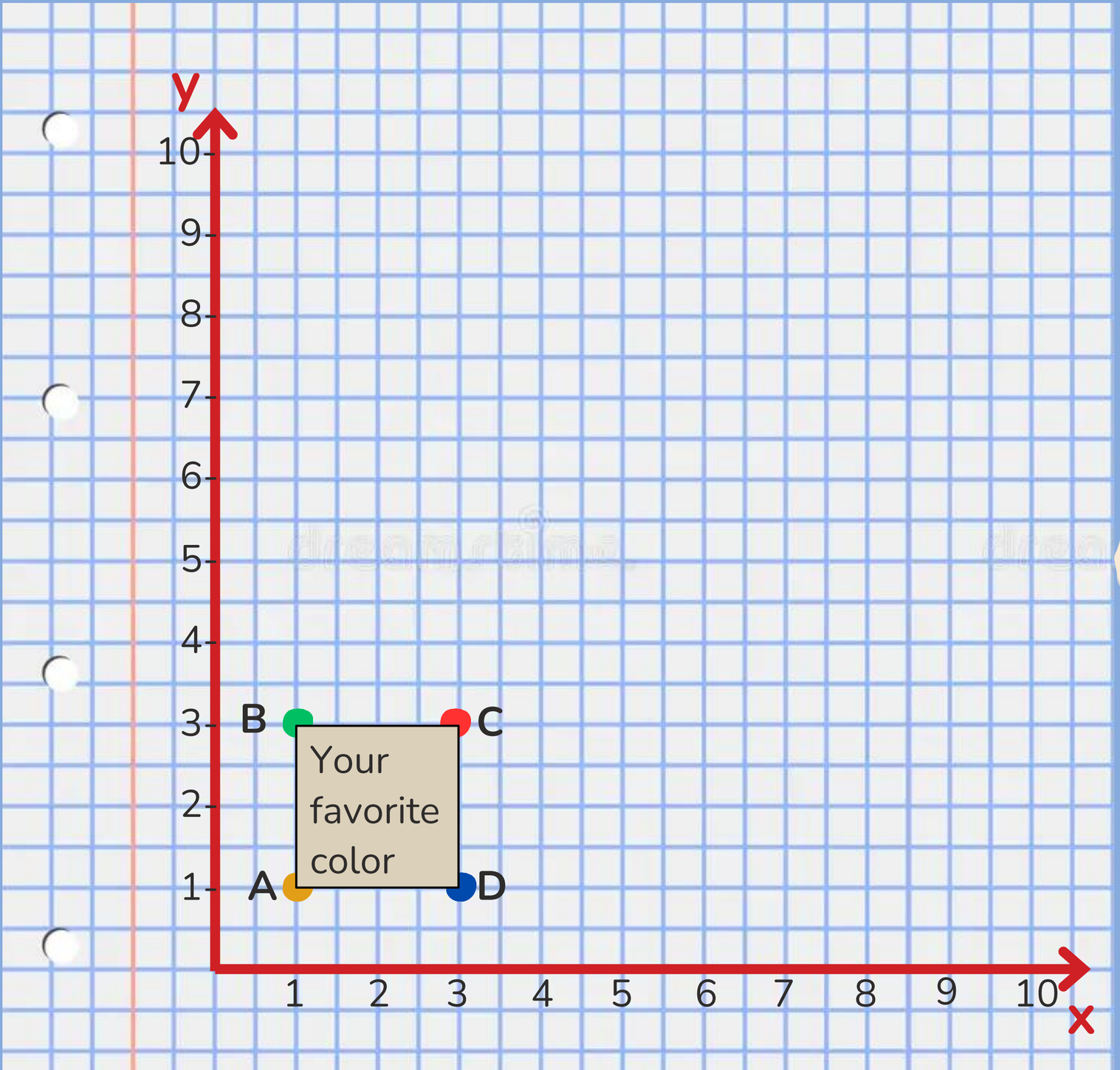




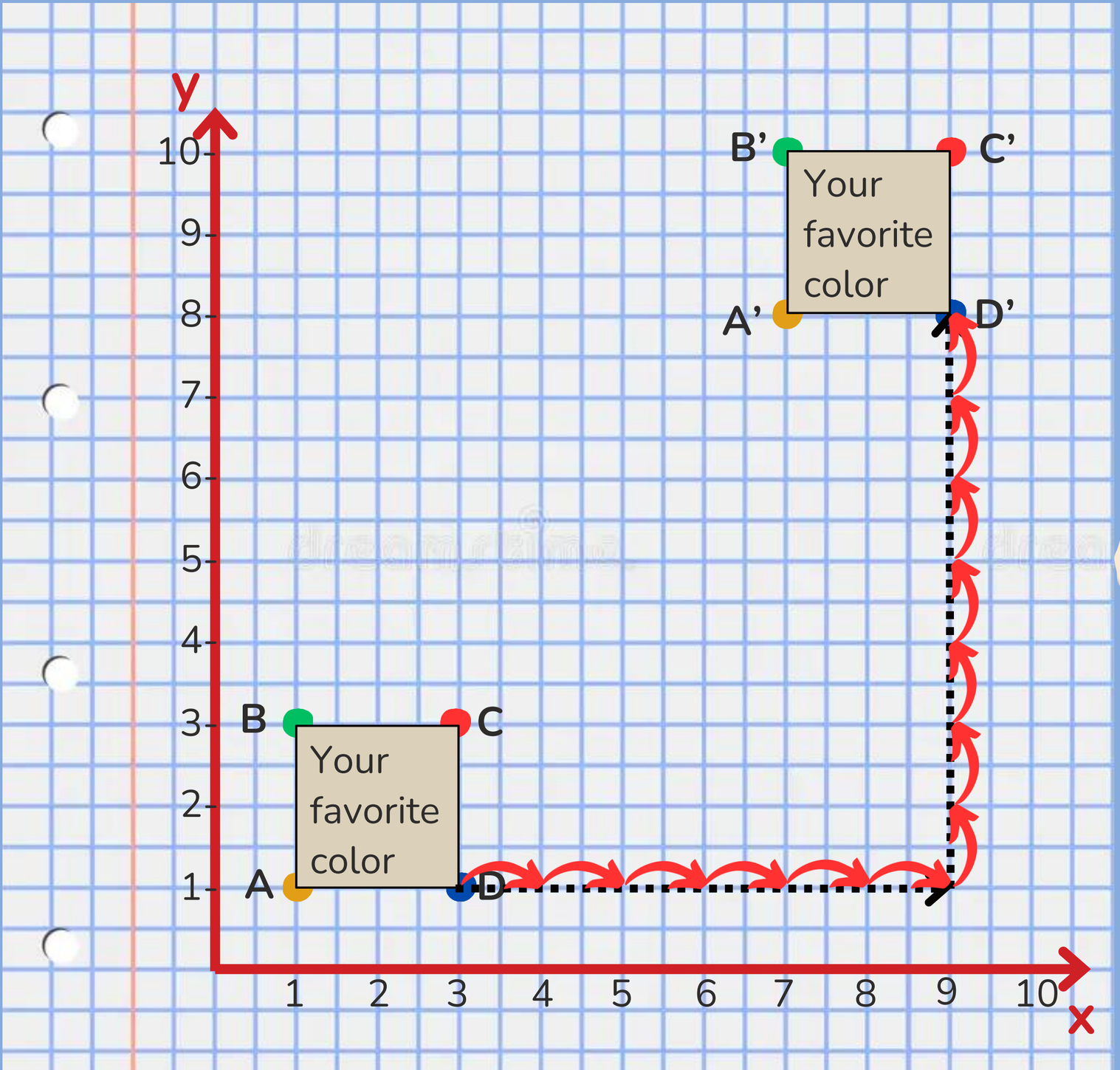
3. PLOT THE POINTS

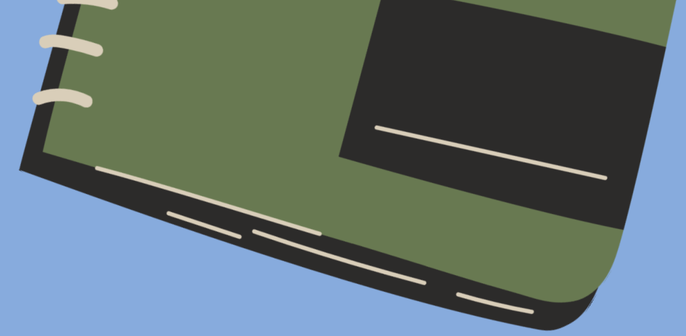
A=(1,1); B=(1,3); C=(3,3); D=(3,1)





4. JOIN THE POINT AND COLOR THE FIGURE. TRANSLATE THE FIGURE 6 UNITS RIGHT AND 7 UNITS UP!





5. TRANSLATE THE FIGURE 6 UNITS RIGHT AND 7 UNITS UP!

WHAT ARE THE NEW ORDERED PAIRS?

A’=(7, 8); B’=(7, 10); C’=(9, 10);

D’=(9, 8)

EXERCISES

Draw a cartesian plane (15x15)

Plot the points A=(9,6); B=(9,13);

C=(11,11); D=(13,14); E=(13,8)

Join the points

Slide the figure 5 units down, 7 units left.

Write the new ordered pairs.

A’=(__,__); B’=(__,__); C’=(__,__);

D’=(__,__); E’=(__,__)

WRAP-UP:

Exchange your notebook and **check**

the classwork of your classmates!

BONUS POINT

Translate the figure located at

A=(11,7); B=(11,9); C=(13,7);

D=(13,9); E=(14,8)

Translate 10 units left and 2 units down.

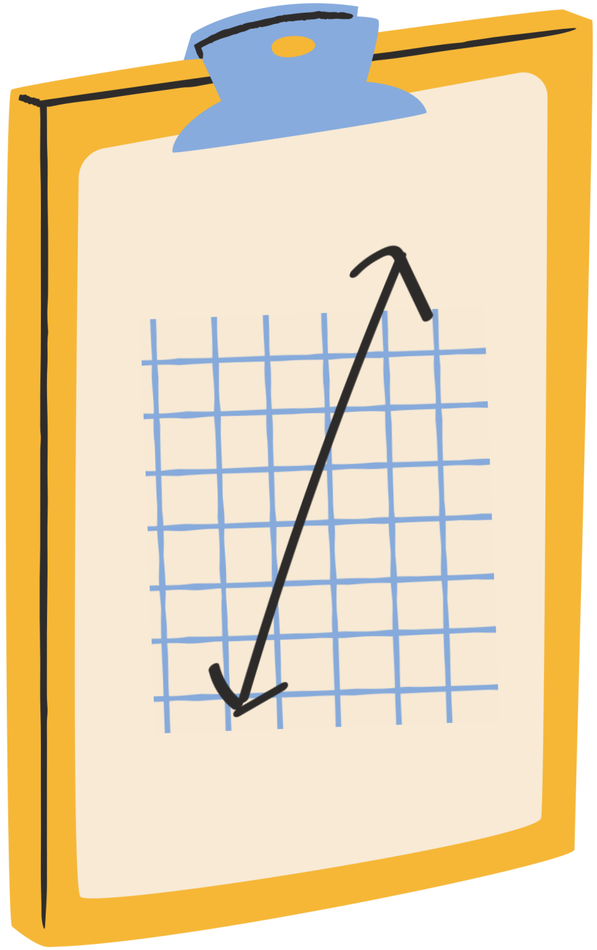
DATE:_____

ROTATION

Ind: To perform transformations on the plane: rotation, translation, reflection, symmetry, homothecy.

INSPIRED BY mathspace

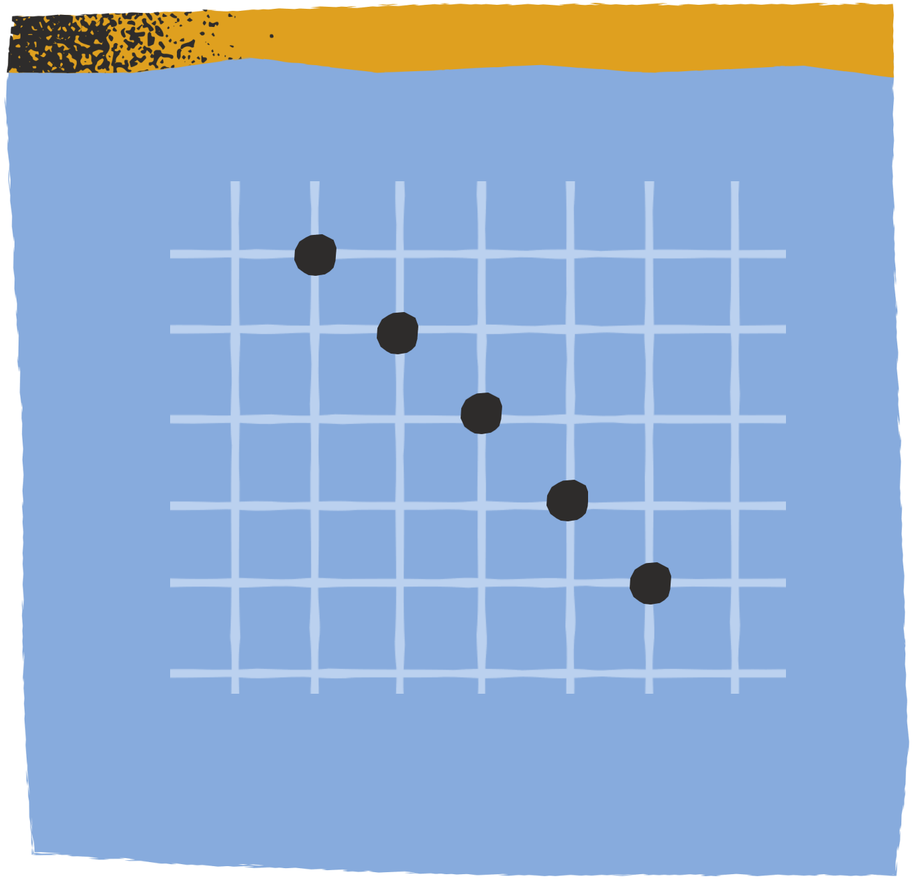
WARM-UP:

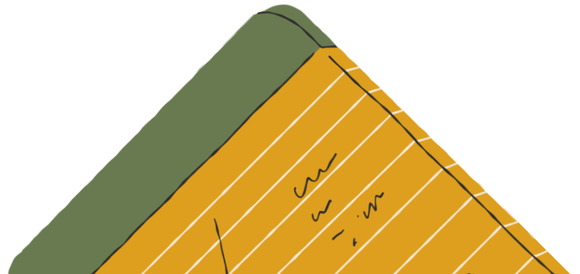


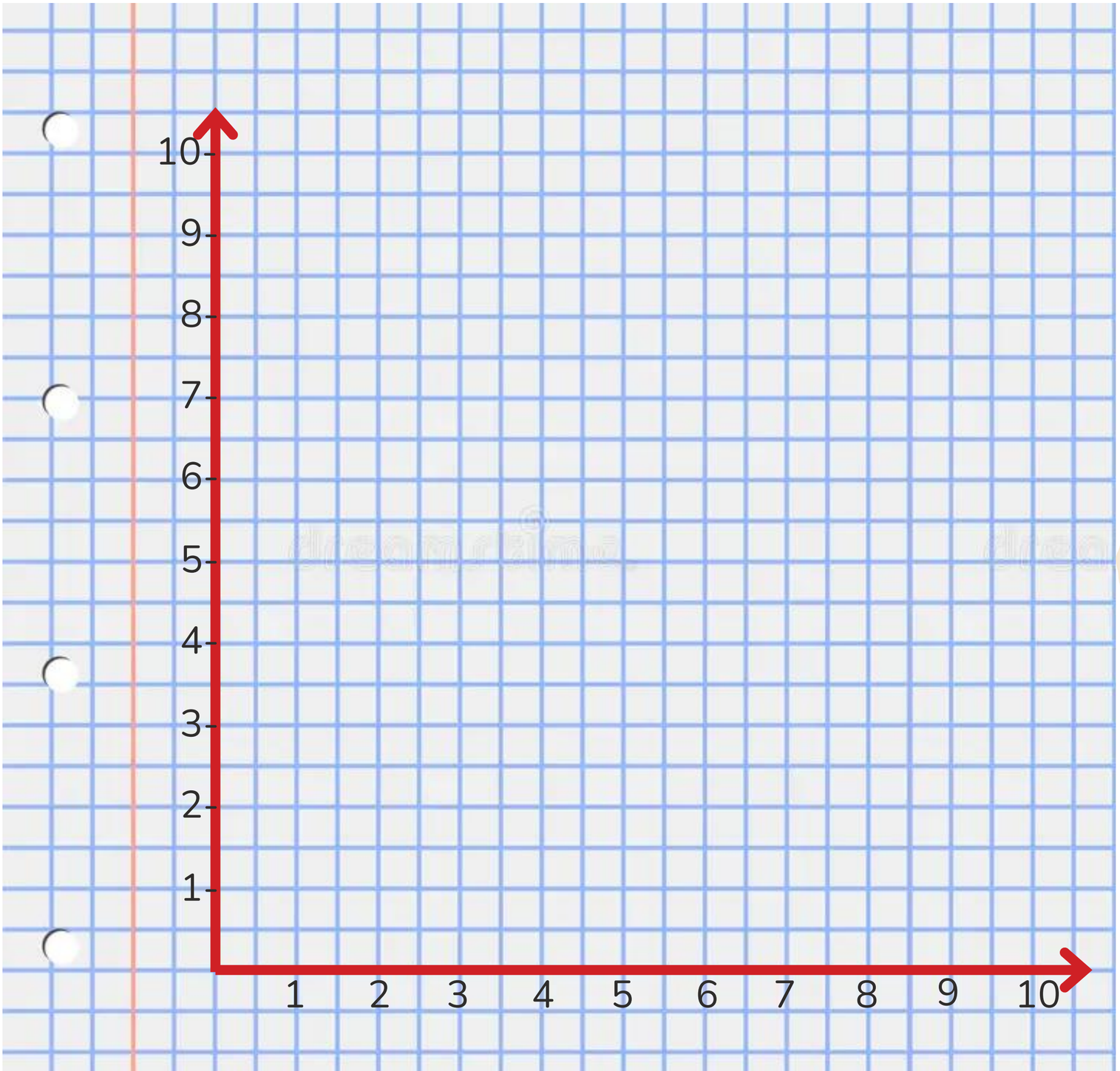
ACTIVITY:

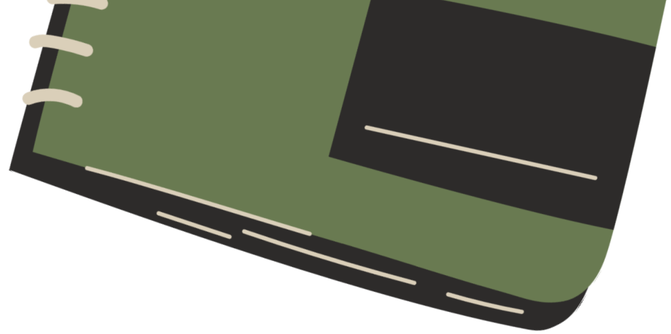
LET'S ROTATE A FIGURE IN YOUR NOTEBOOK.

TAKE OUT YOUR RULER



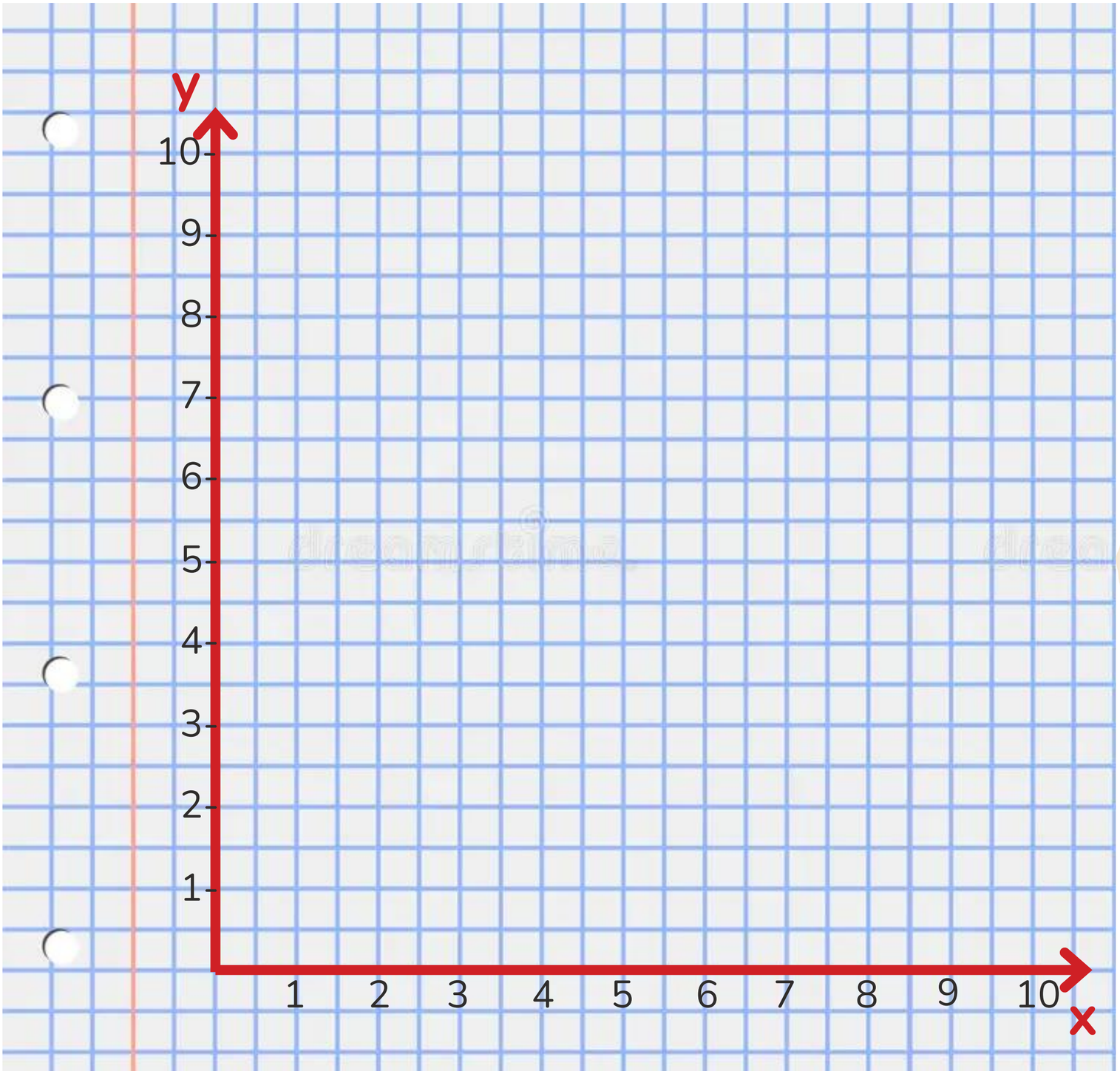


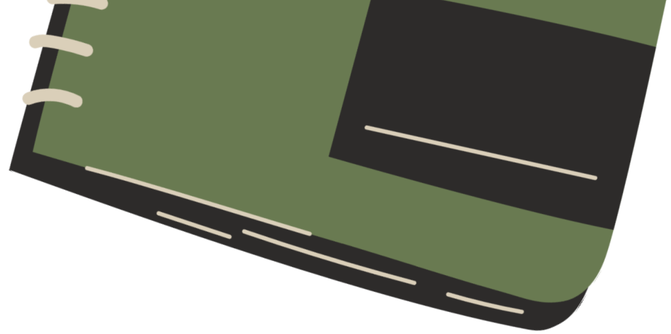




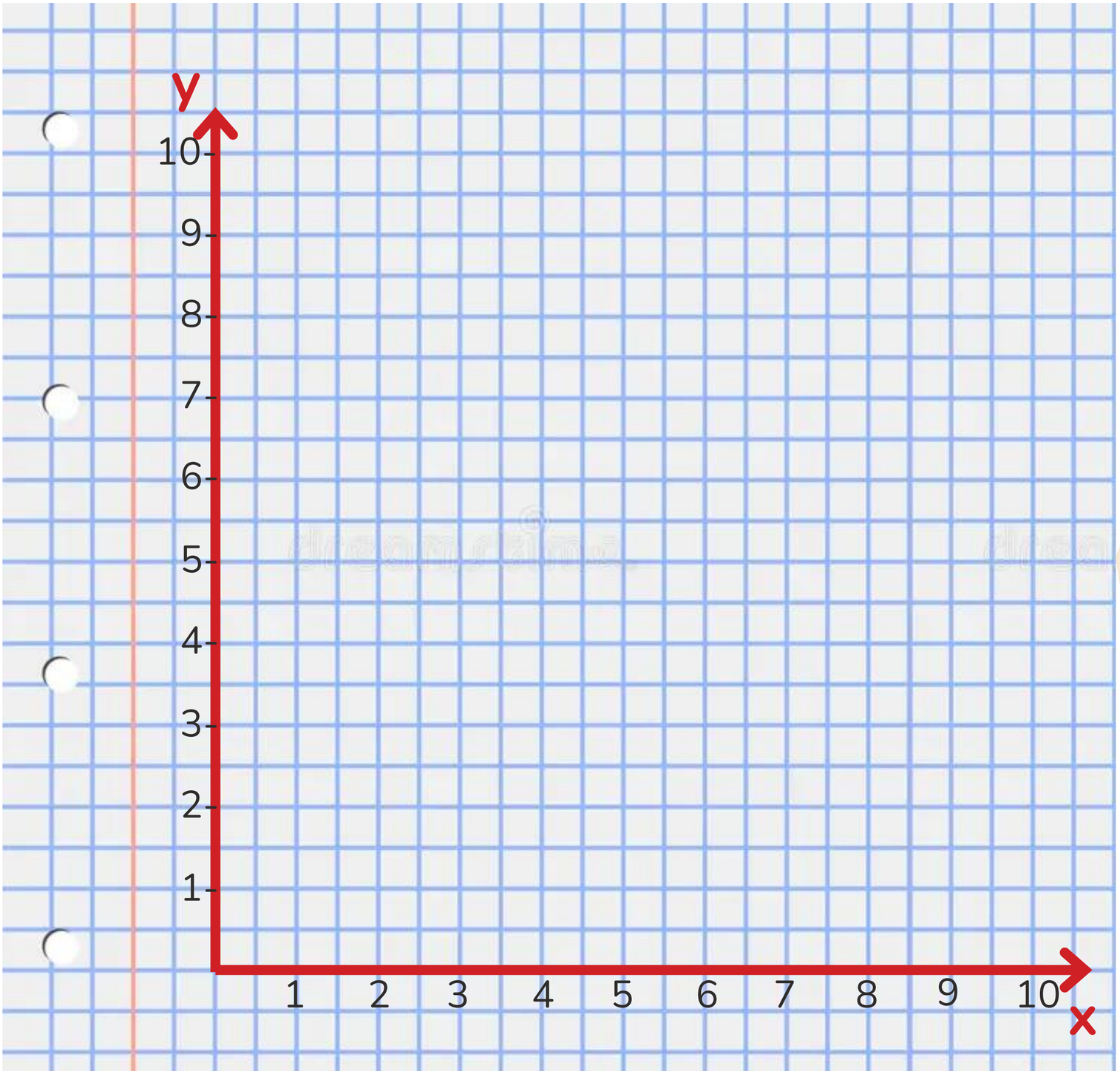
1. NUMBER LINES

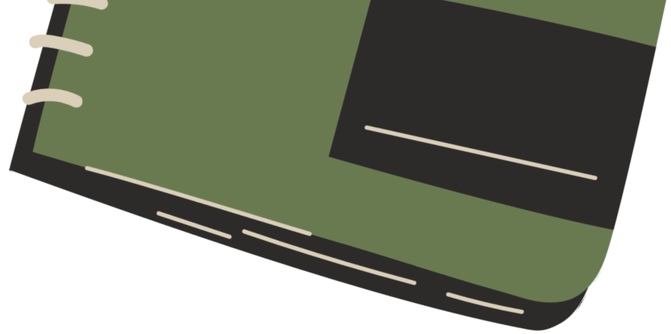
10 cm x 10 cm





2. LABEL THE AXIS



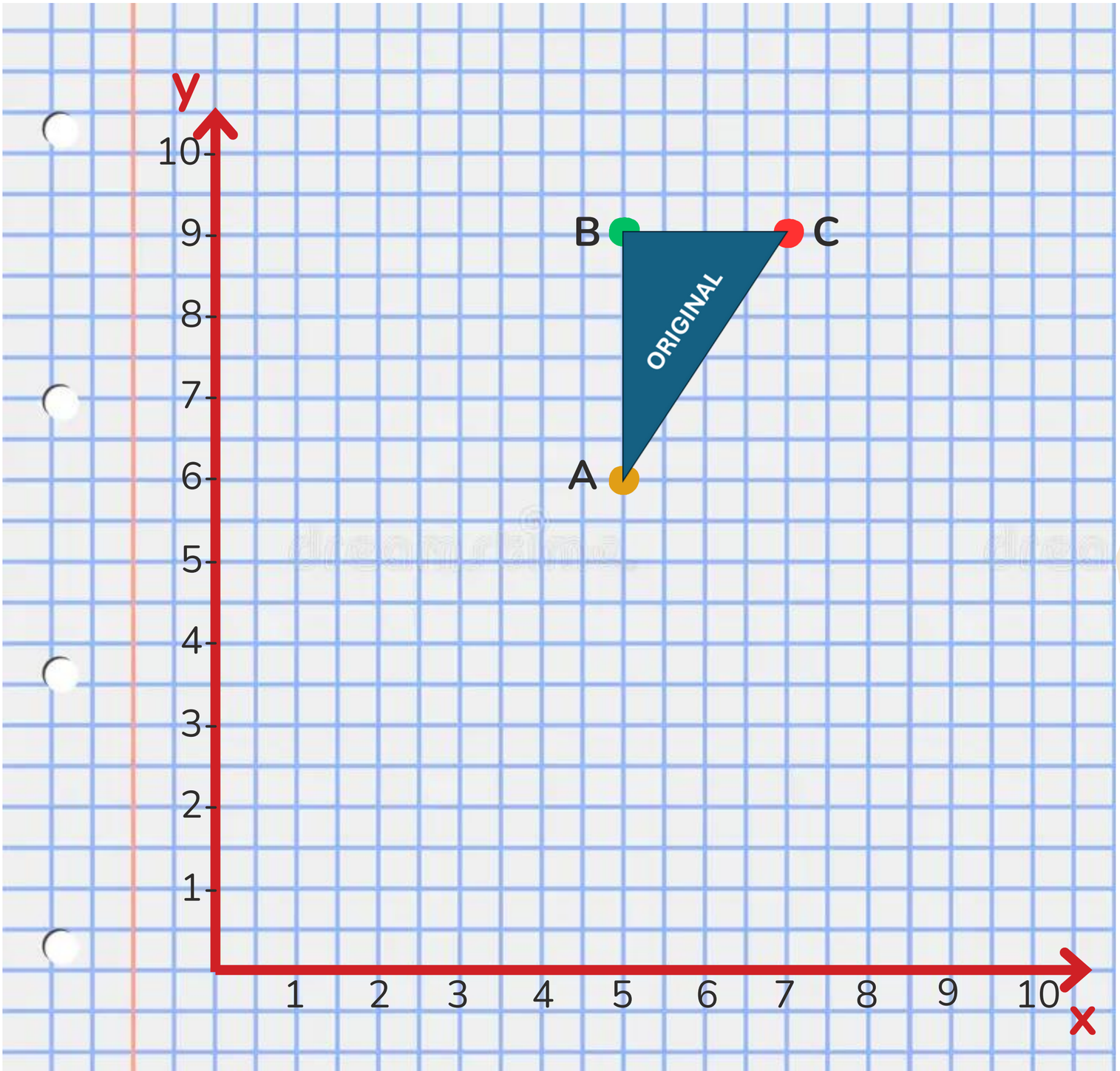


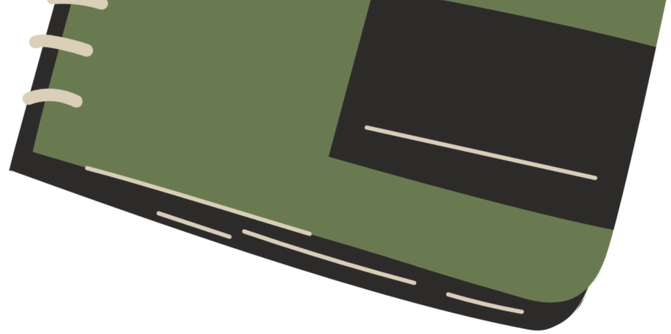
3. PLOT THE POINTS

A=(5,6);

B=(5,9);

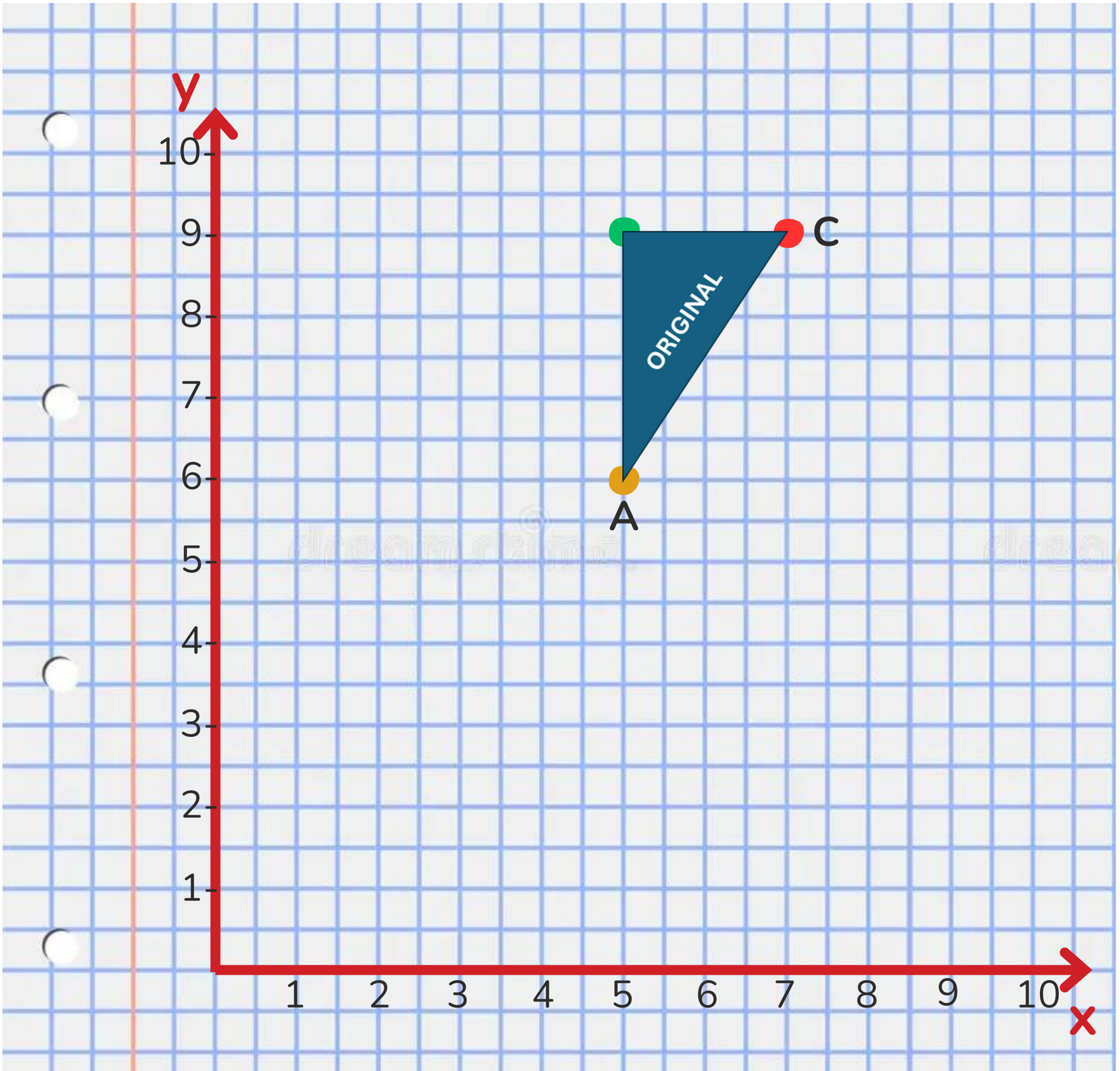
C=(7,9)

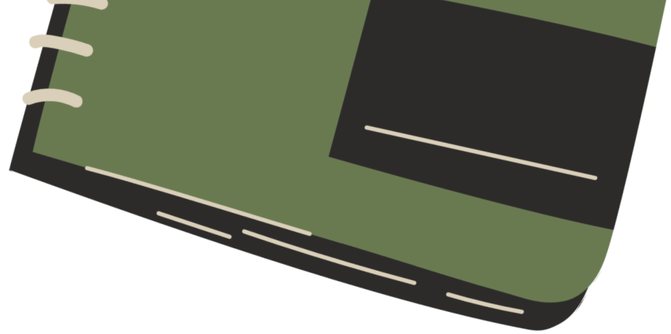




4. JOIN THE POINTS AND COLOR THE RESULTING FIGURE

LABEL IT AS “ORIGINAL”

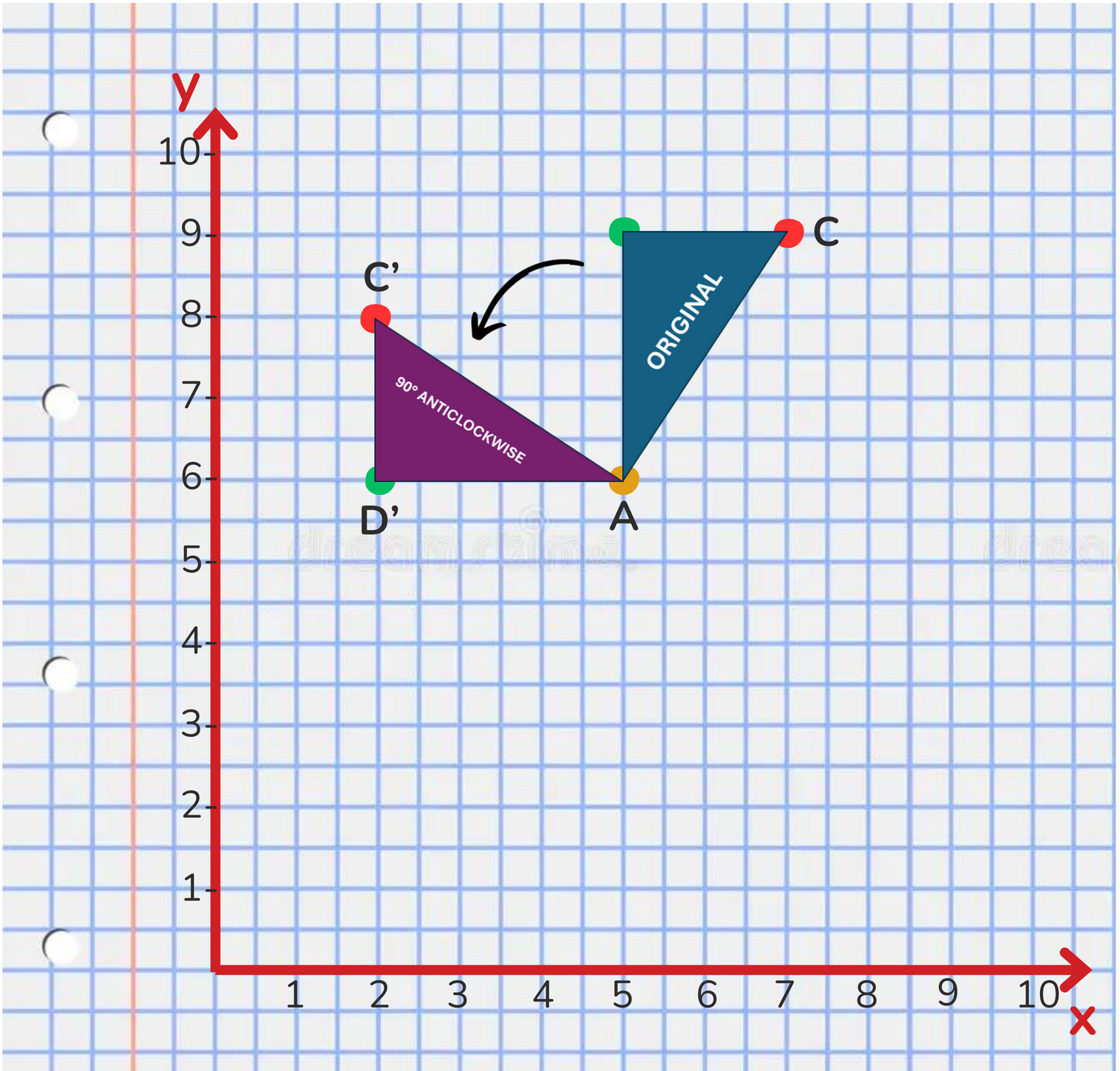


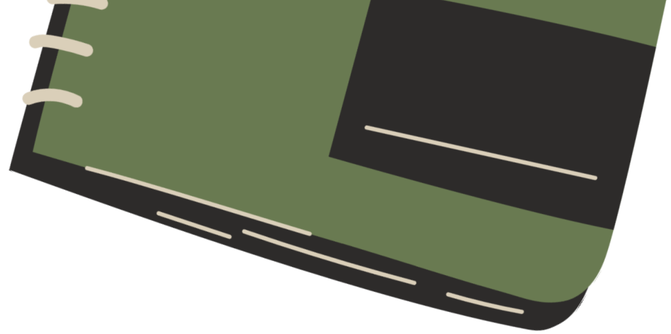


5. ROTATE THE ORIGINAL FIGURE 90° COUNTERCLOCKWISE ABOUT POINT "A".

RENAME THE OTHER POINTS.

LABEL IT AS
"90° ANTICLOCKWISE"

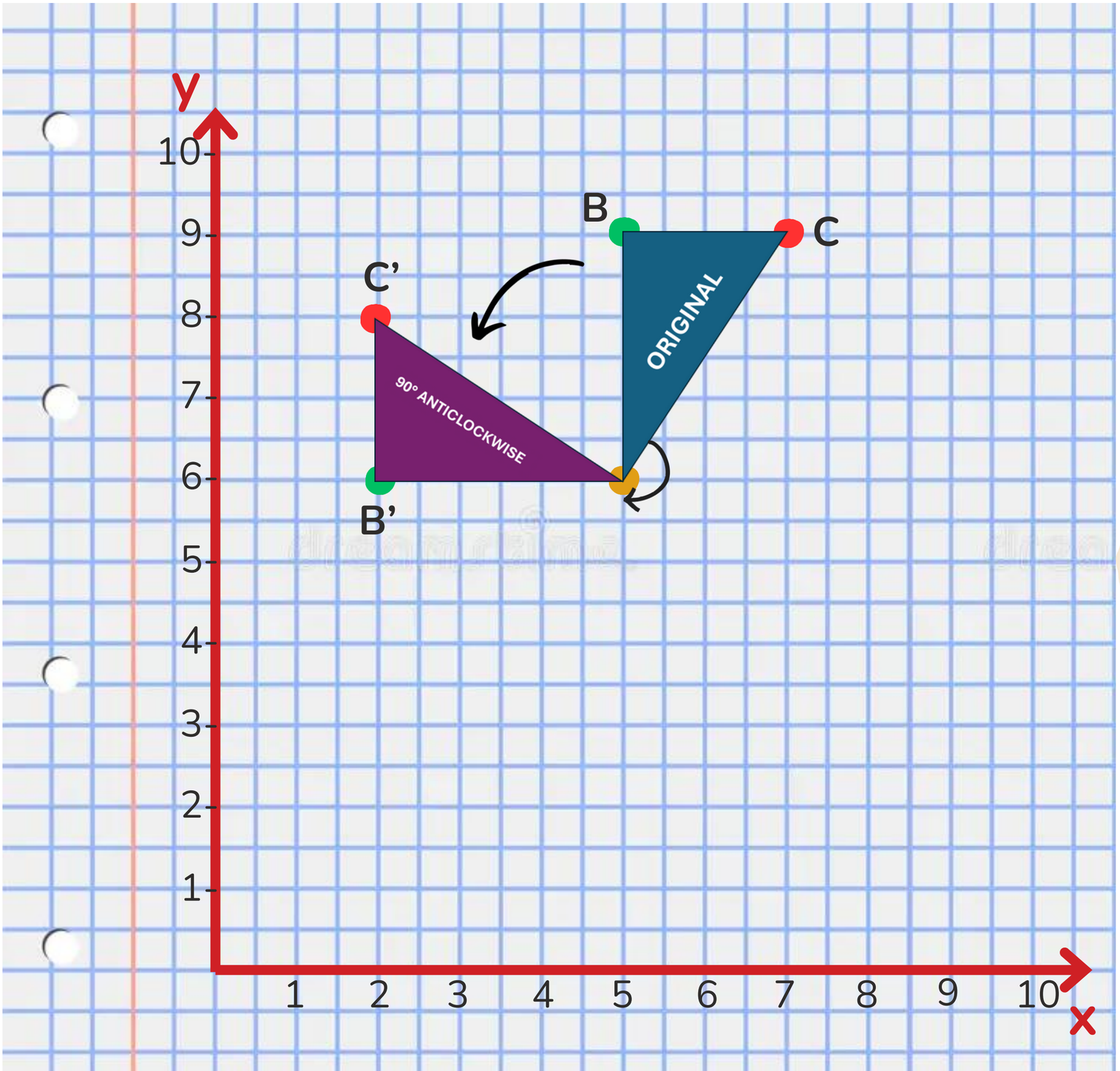


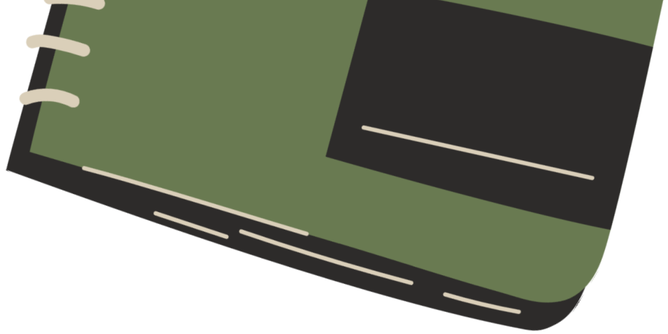


5. ROTATE THE ORIGINAL FIGURE 90° COUNTERCLOCKWISE ABOUT POINT “A”.

RENAME THE OTHER POINTS.

LABEL IT AS
“90° ANTICLOCKWISE”





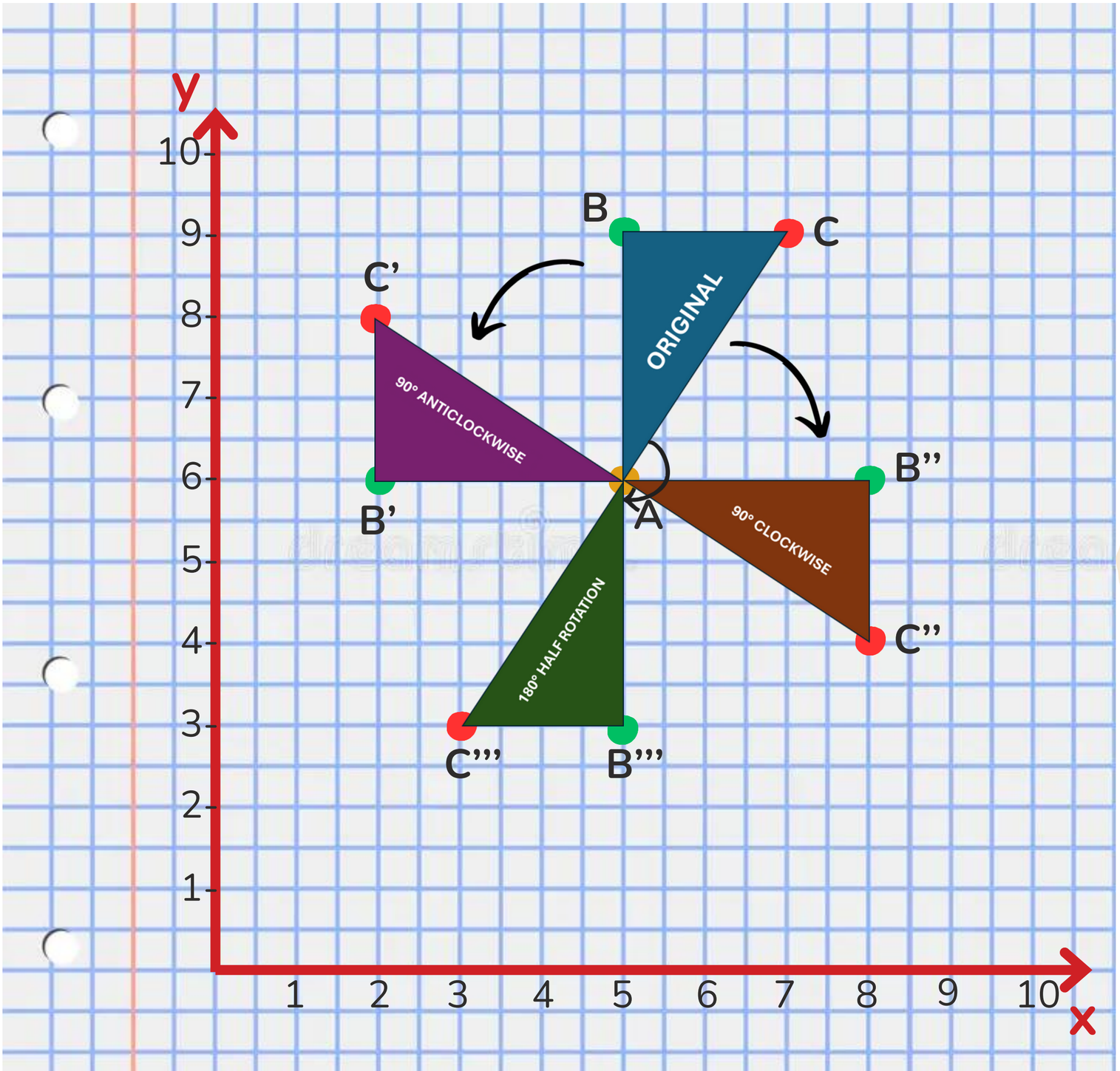
6. FROM THE ORIGINAL FIGURE:

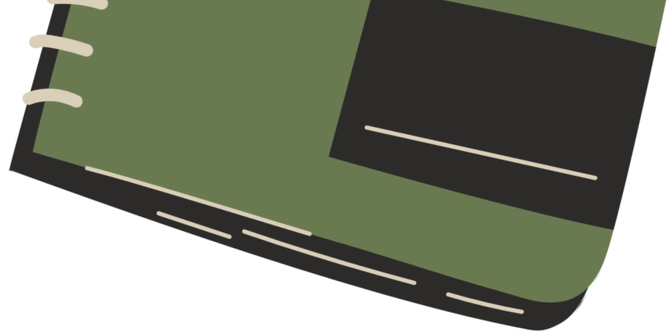
ROTATE 90° CLOCKWISE

LABEL IT AS
“90° CLOCKWISE”

MAKE A HALF ROTATION

LABEL IT AS
“180° HALF ROTATION”





6. REPEAT THE PREVIOUS STEP AND:

ROTATE 90° CLOCKWISE

LABEL IT AS
“90° CLOCKWISE”

MAKE A HALF ROTATION

LABEL IT AS
“180° HALF ROTATION”

WHAT ARE THE NEW ORDERED PAIRS?

B’,C’

B’’,C’’

B’’’,C’’’

EXERCISES

Draw a cartesian plane (15x15)

Plot the points A=(9,6); B=(9,13); C=(11,11); D=(13,14); E=(13,8)

Join the points

Turn the shape 90° anticlockwise direction about point A.

Write the new ordered pairs.

A’=(__,__); B’=(__,__); C’=(__,__); D’=(__,__); E’=(__,__)

Exchange your notebook and **check** the classwork of your classmates!

BONUS POINT

Translate the figure located at

A (11,7) B (11,9) C (13,7) D (13,9) E (14,8)

Translate 10 units left and 2 units down

Turns the figure a half rotation and a 90° clockwise.

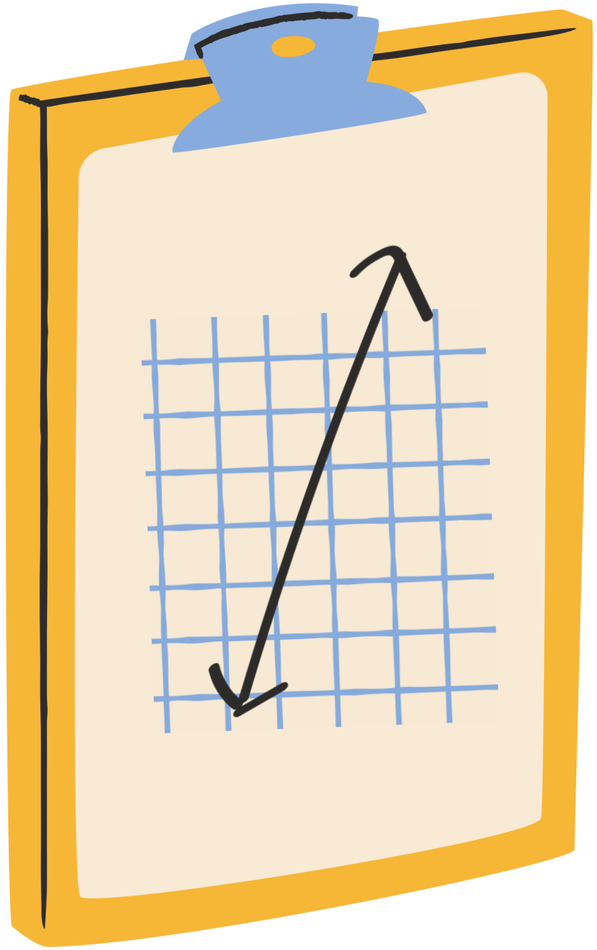
DATE: _____

REFLECTION

Ind: To perform transformations on the plane: rotation, translation, reflection, symmetry, homothecy.

INSPIRED BY mathspace

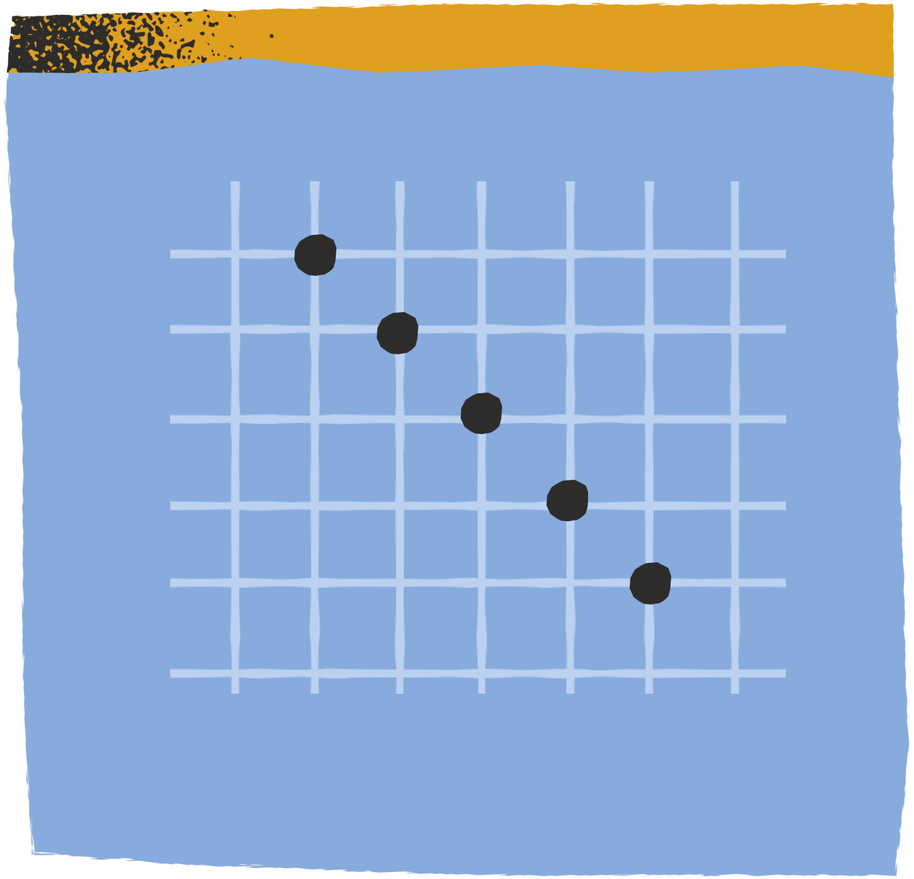
WARM-UP:

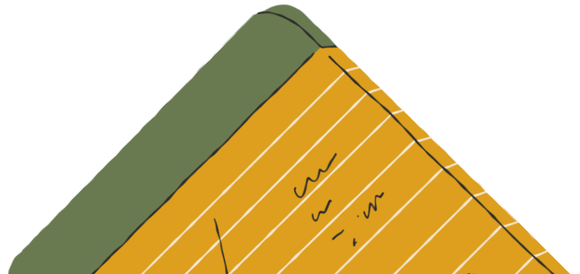


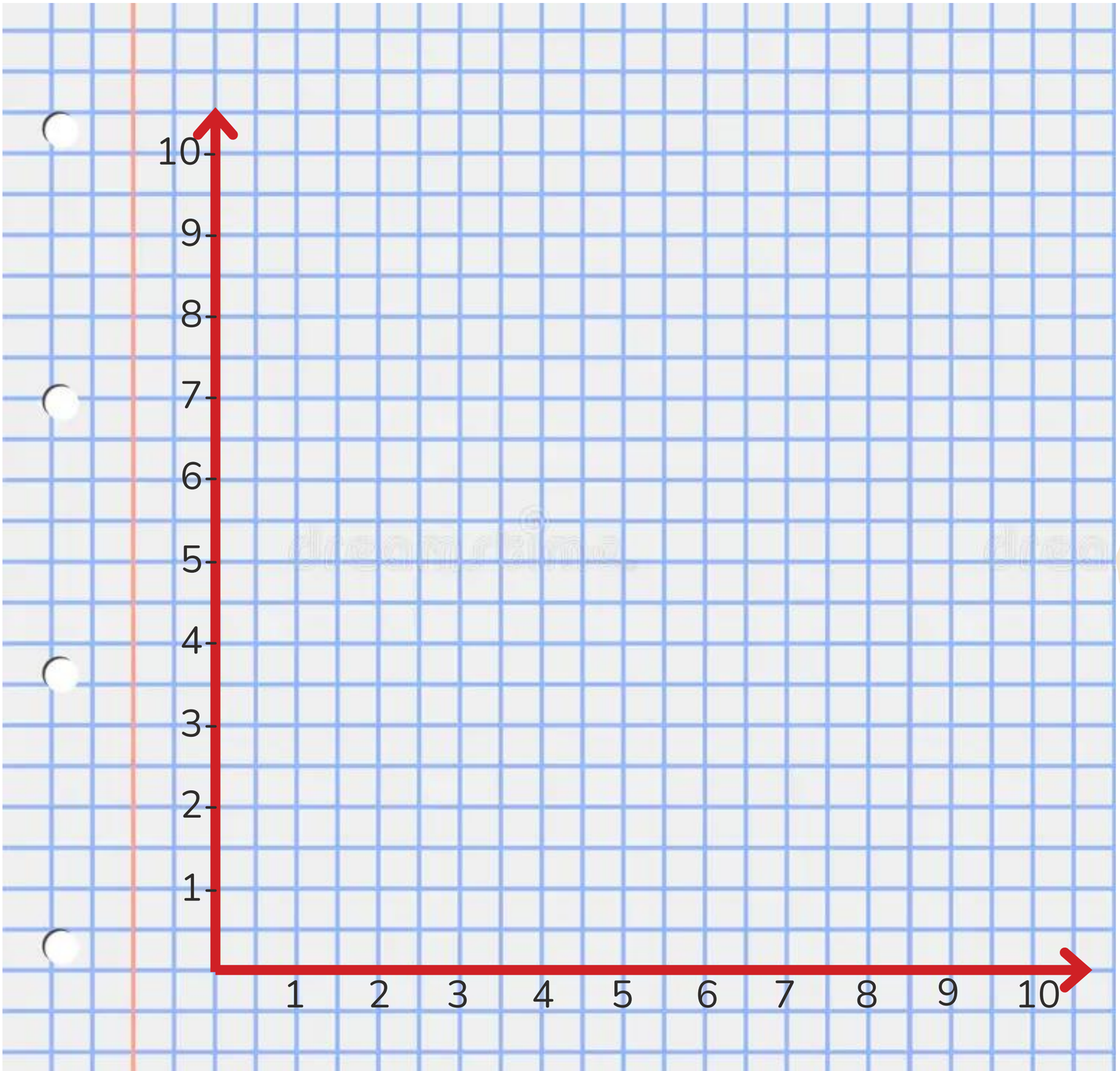
ACTIVITY:

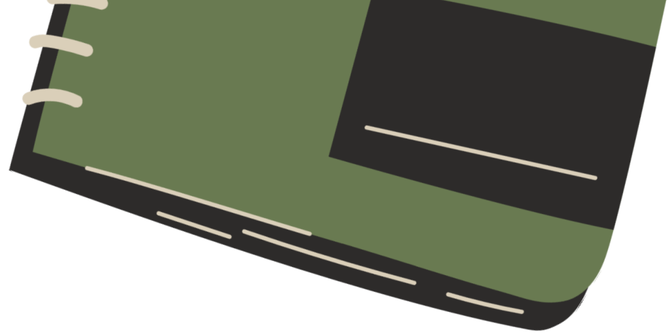
LET'S FLIP A FIGURE IN YOUR NOTEBOOK.

TAKE OUT YOUR RULER



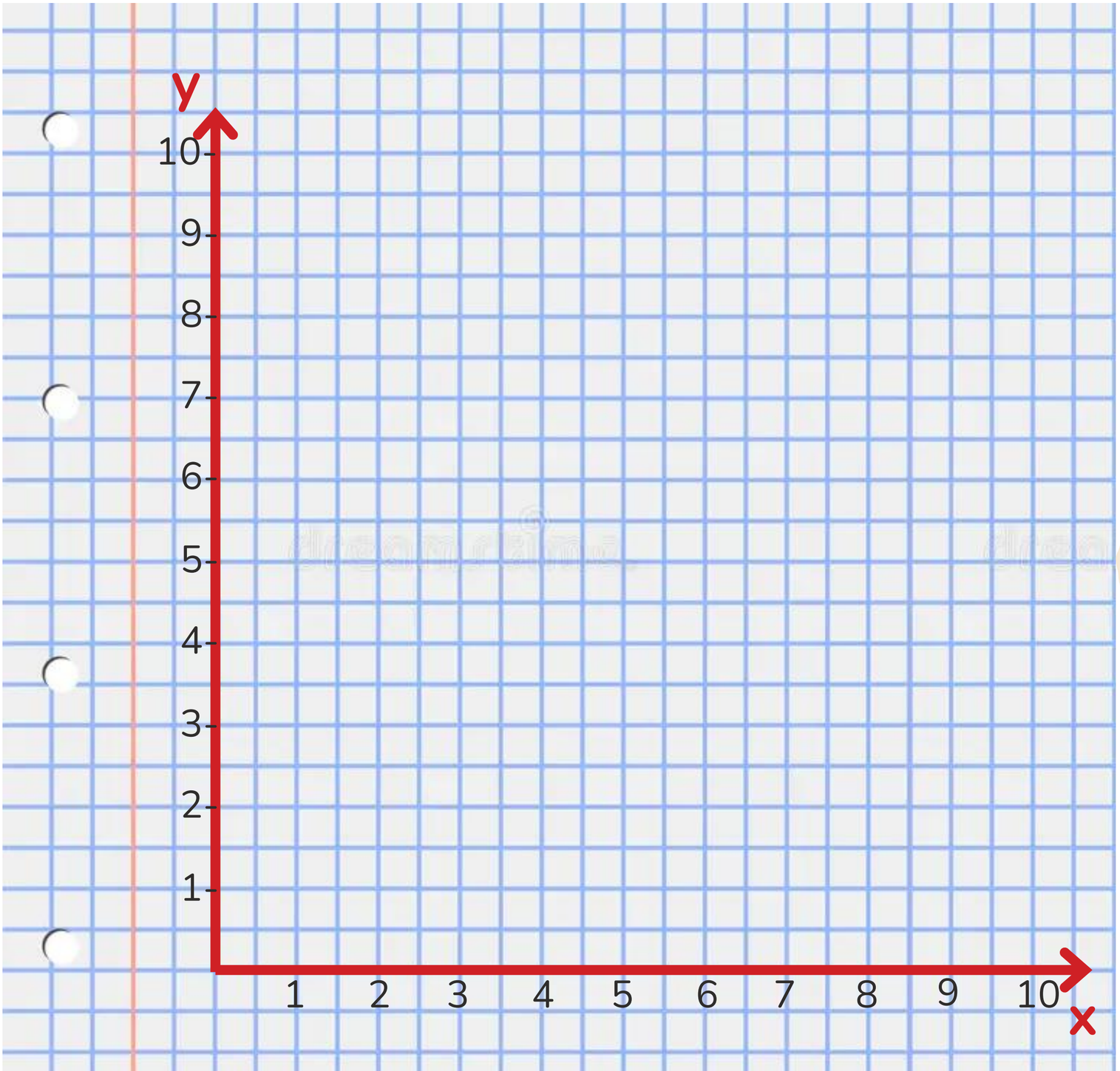


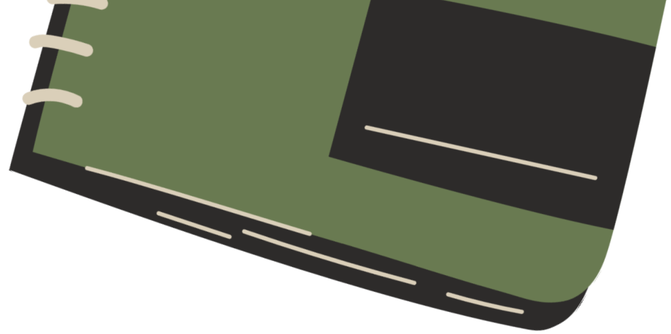




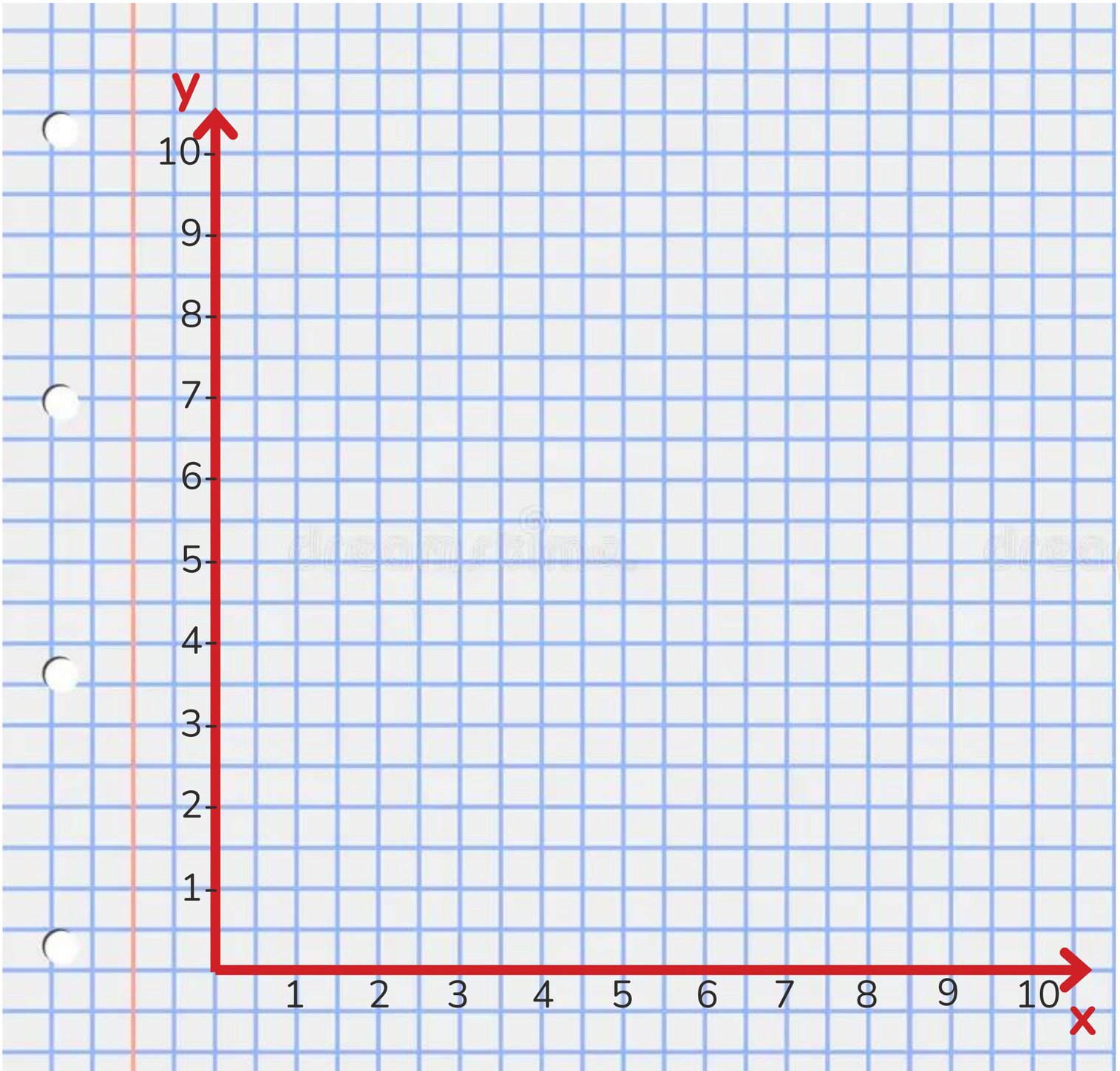
1. NUMBER LINES

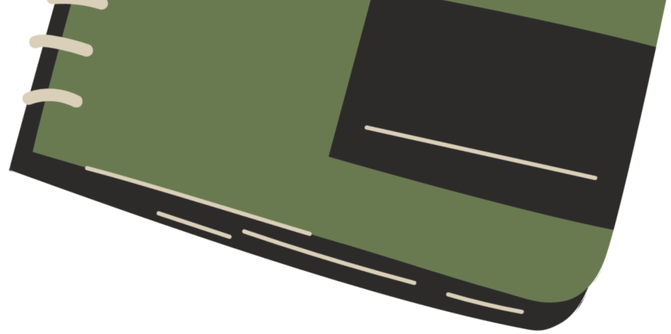
10 cm x 10 cm





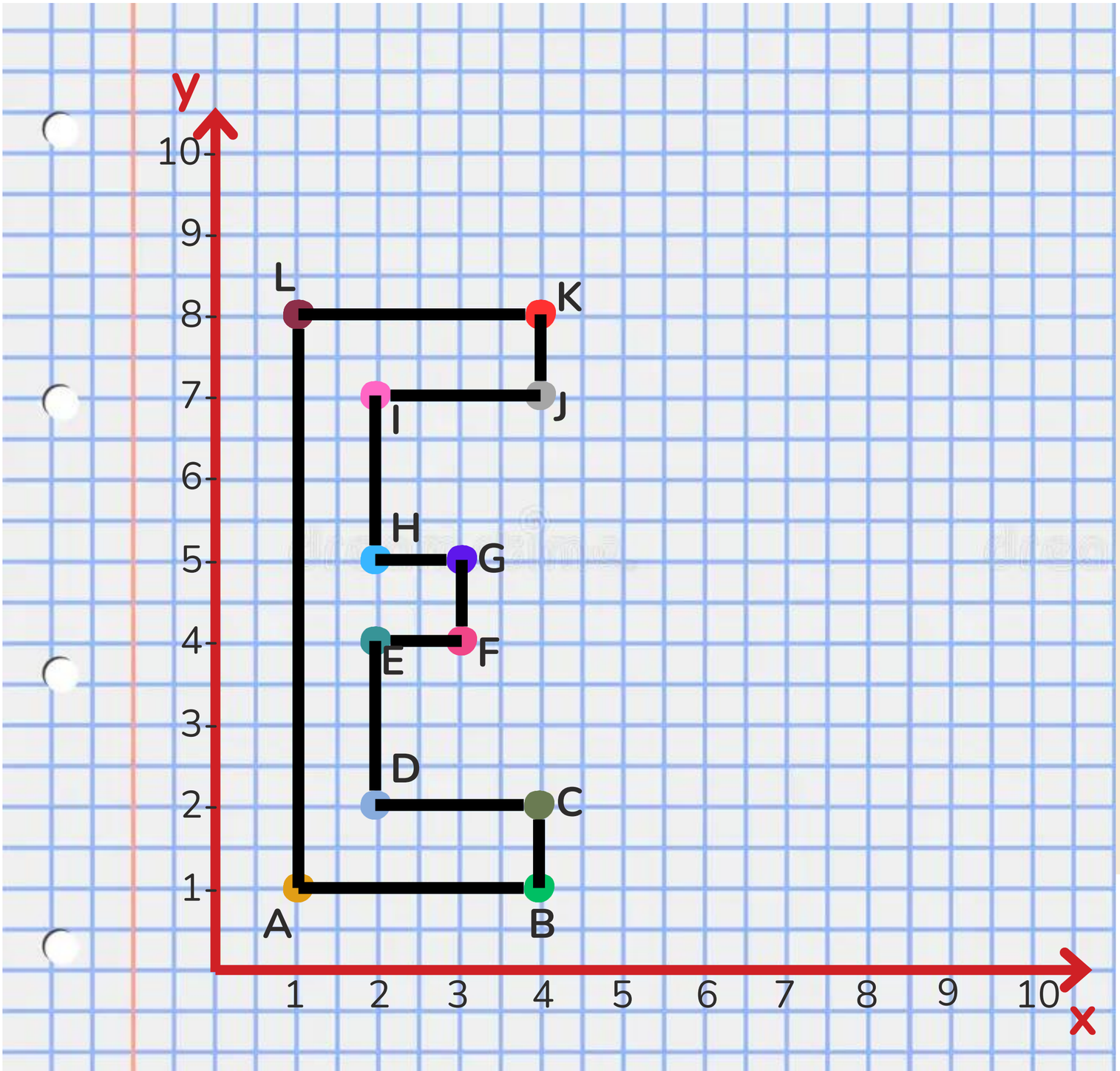
2. LABEL THE AXIS





3. PLOT THE POINTS

A=(1,1); B=(4,1);
C=(4,2); D=(2,2);
E=(2,4); F=(3,4);
G=(3,5); H=(2,5);
I=(2,7); J=(4,7);
K=(4,8); L=(1,8)



3. PLOT THE POINTS

A=(1,1); B=(4,1);
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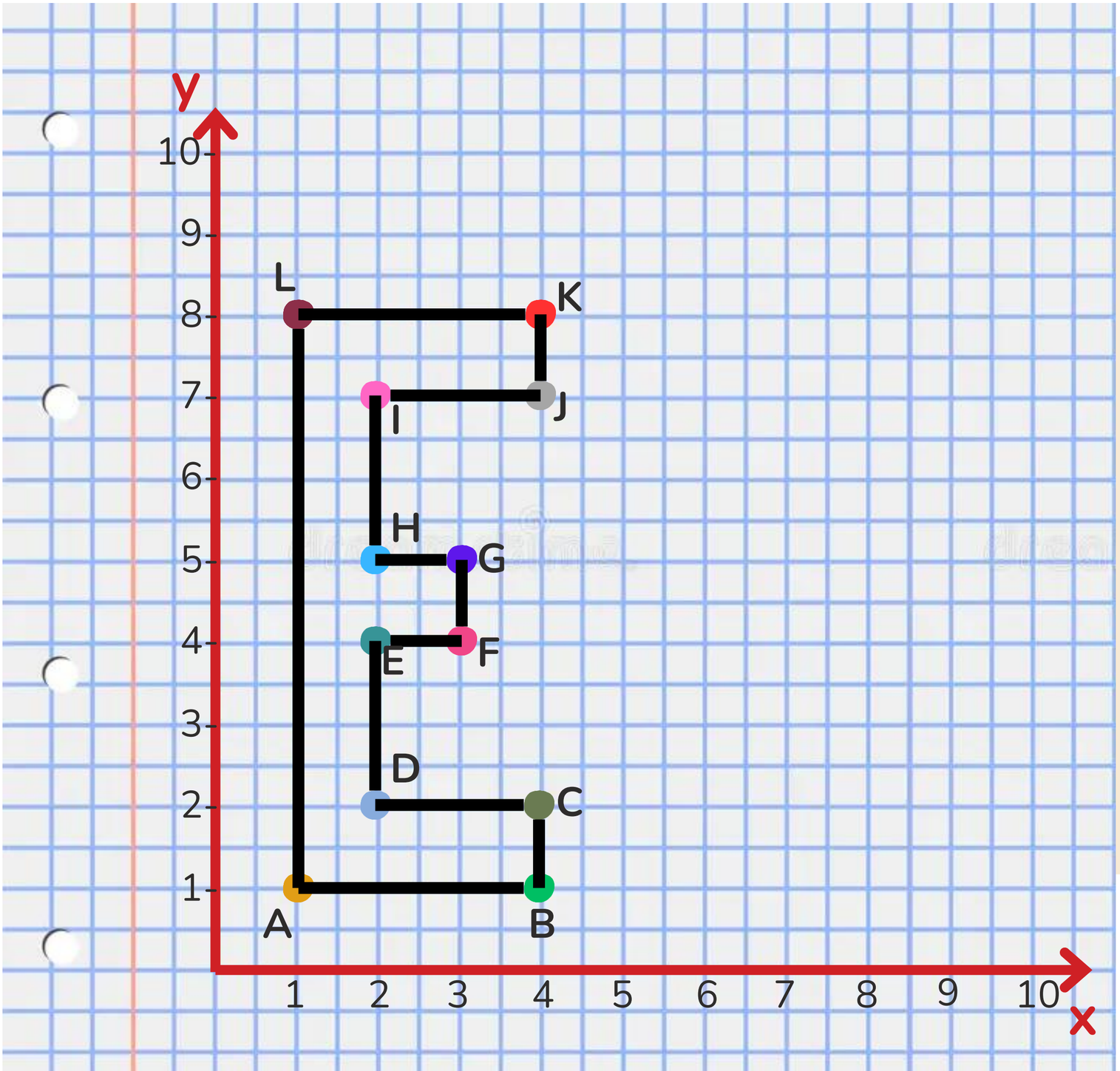
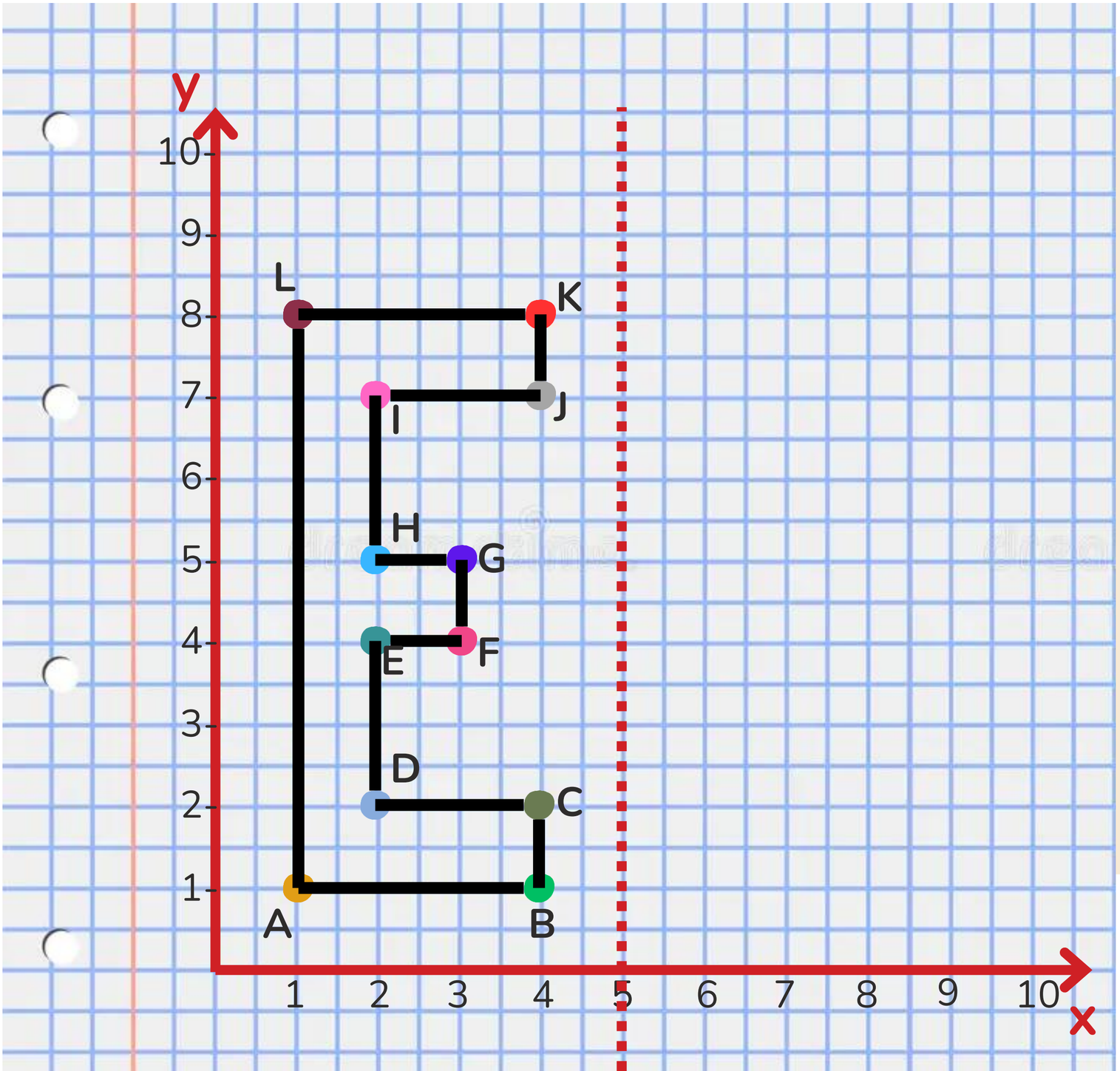
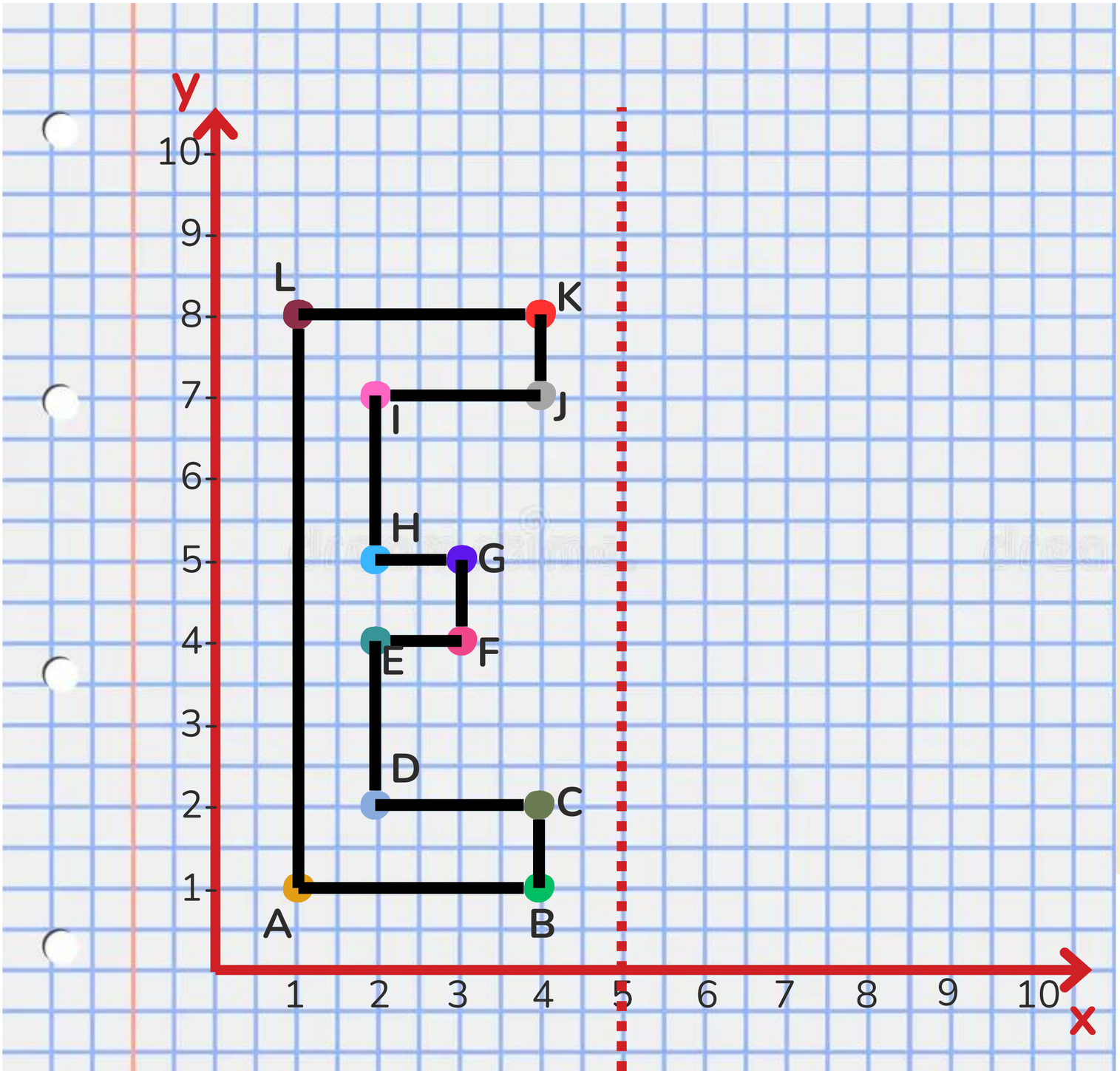


4. TRACE THE LINE OF SYMMETRY AT X=5



4. TRACE THE LINE OF SYMMETRY AT X=5

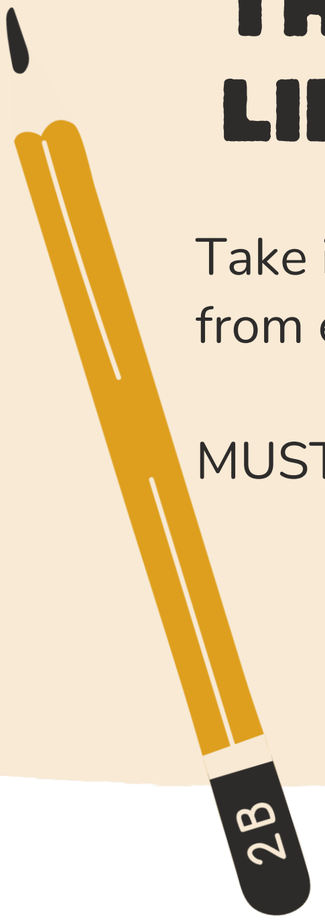
Draw it with red pencil.

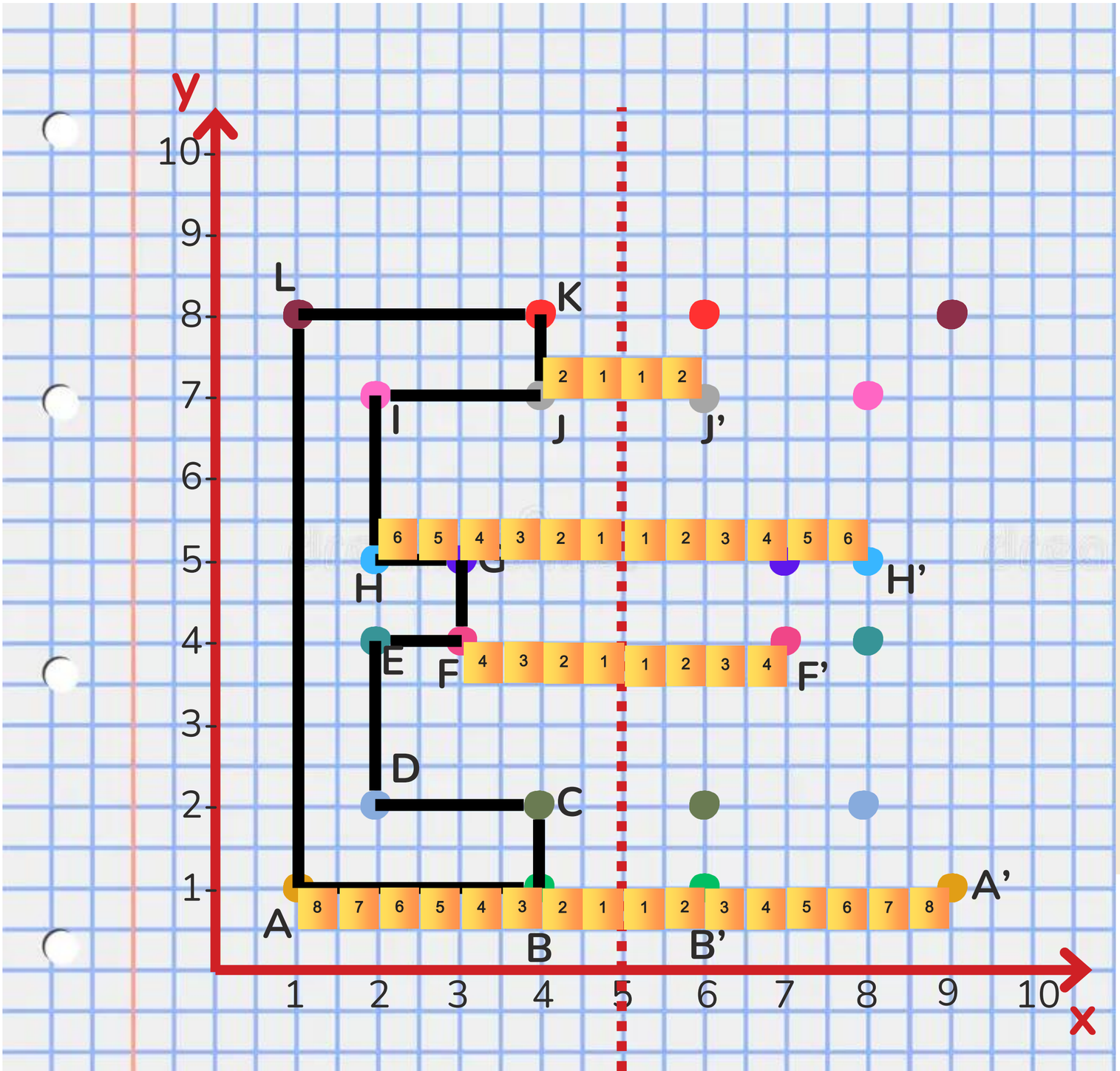


5. FLIP THE SHAPE OVER THE MIRROR LINE.

Take into account the distance from each point.

MUST BE SYMMETRICAL!





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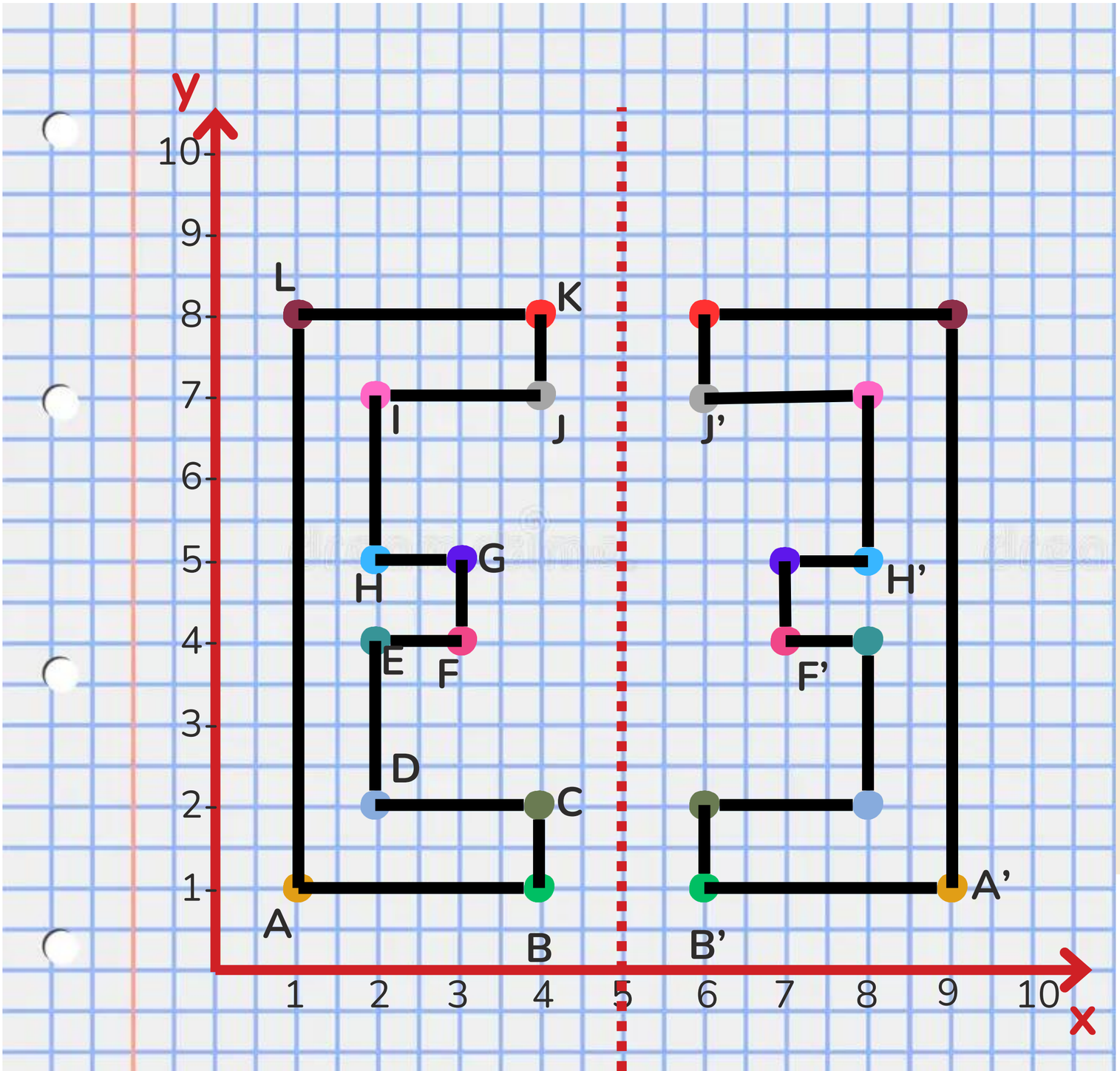
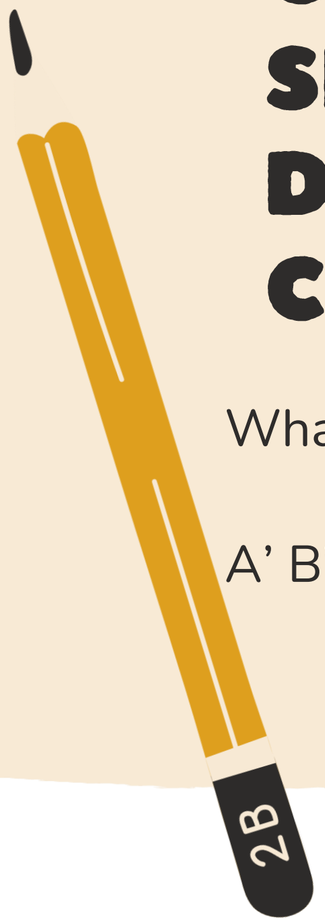


6. JOIN THE NEW POINTS AND COLOR THE SHAPES WITH DIFFERENT COLORS

What are the new ordered pairs?

A’ B’ C’ D’ E’ F’ G’ H’ I’ J’ K’ L’



EXERCISES

Draw a cartesian plane (15x15)

Plot the points A(9,6) B(9,13) C(11,11) D(13,14) E(13,8)

Join the points

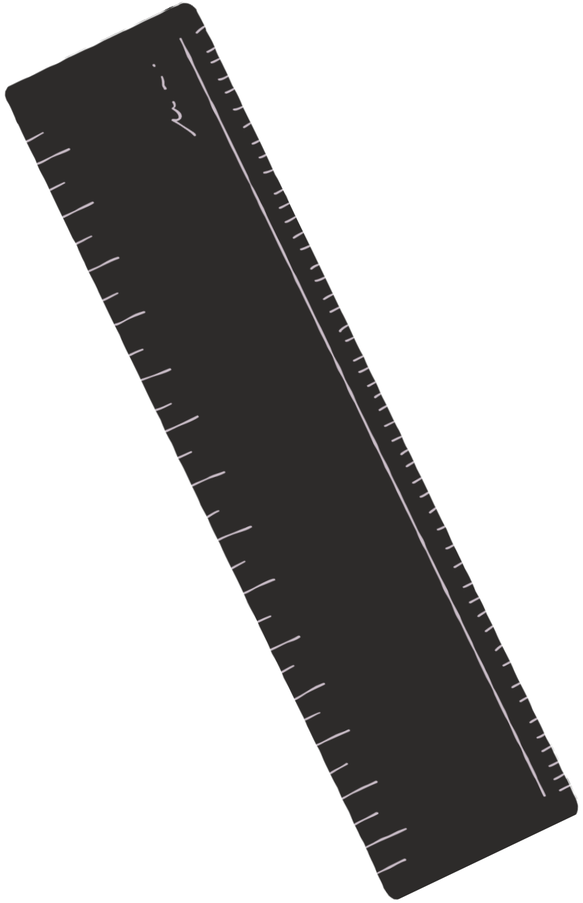
Line of symmetry at X= 7 and flip the figure.

Write the new ordered pairs.

A’(__,__) B’ (__,__) C’ (__,__) D’ (__,__) E’ (__,__)

WRAP-UP:

Exchange your notebook and **check** the classwork of your classmates!



BONUS POINT

Translate the figure located at

A (11,7) B (11,9) C (13,7) D (13,9) E (14,8)

Move 10 units left and 2 units down

Turns the figure a half rotation and a 90° clockwise.

Flip over the x=5