Class Work: Dilations

You need your notes and some graph paper. Title the paper: Dilations

I will check your work at the end of class.

Transformation

- Transformations move figures around on the coordinate plane.
- Image - result of the transformation

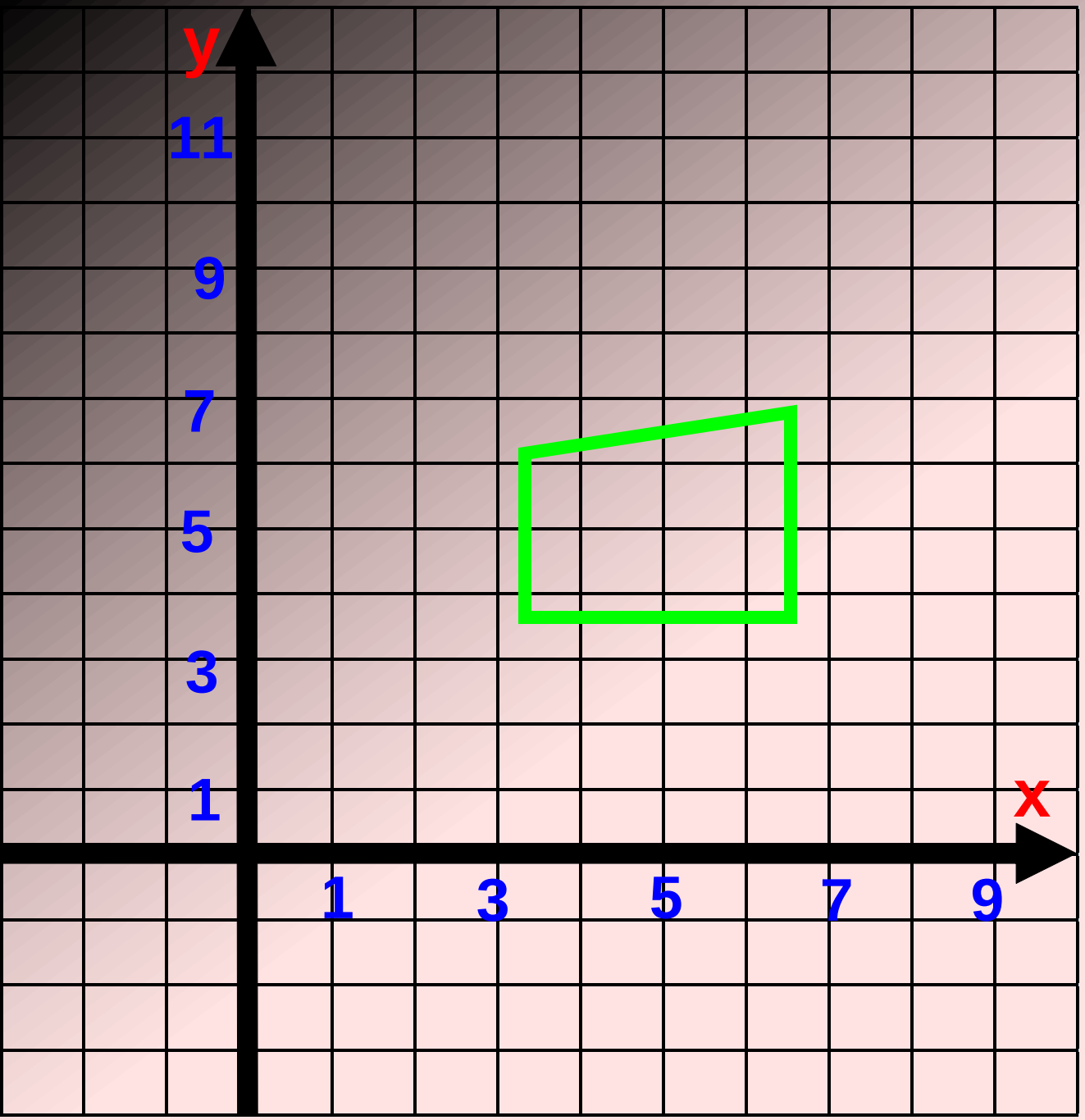
Dilations

Enlargement: similar figure is larger than the original

Scale Factor > 1

Reductions: similar figure is smaller than the original

Scale Factor < 1


y
11
9
7
5
3
1
x
1
3
5
7
9

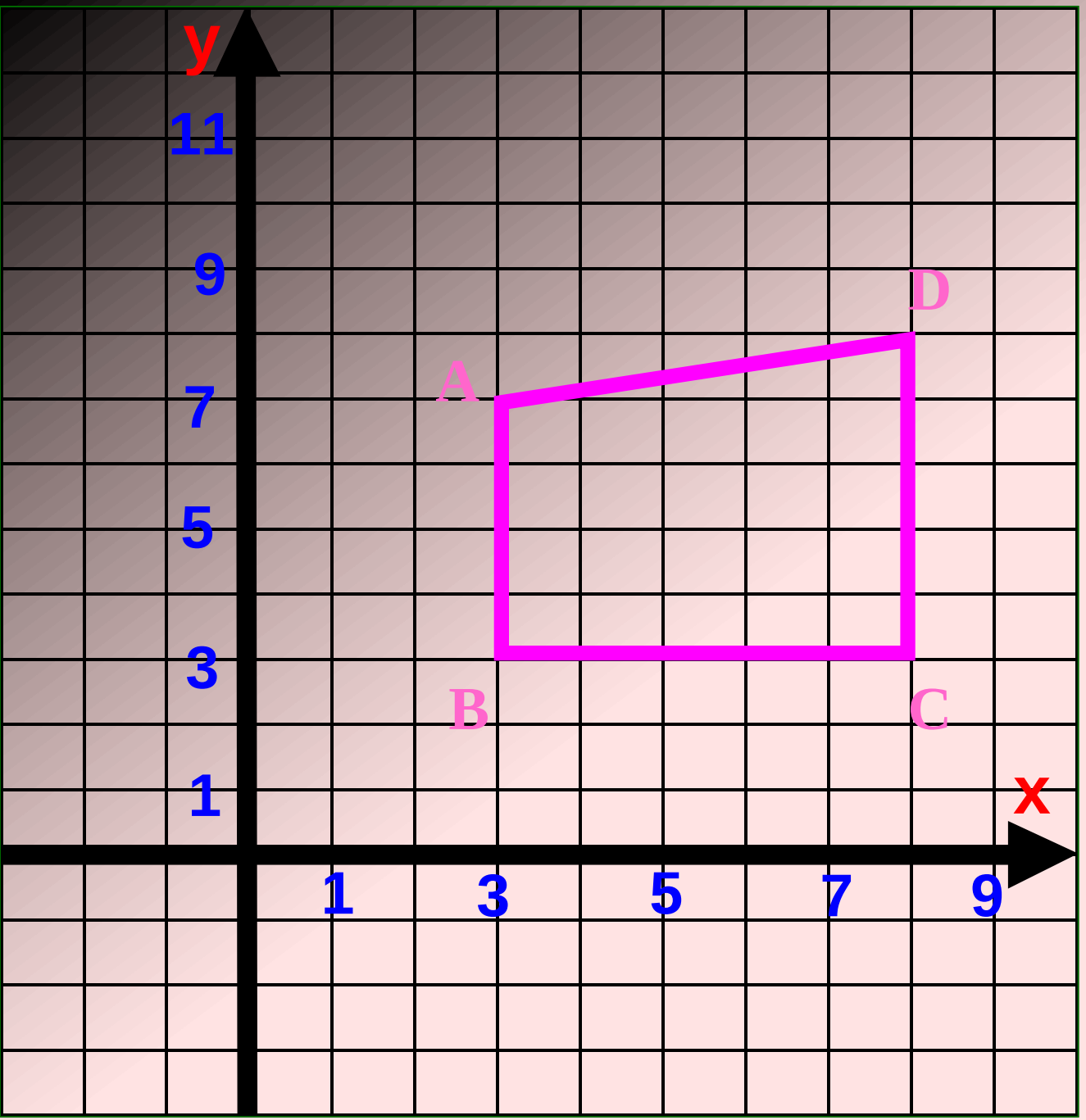
Dilations

- To get the points of the image, multiply the coordinates of the original figure by the scale factor.
- Point B(3,3) scale factor: .5

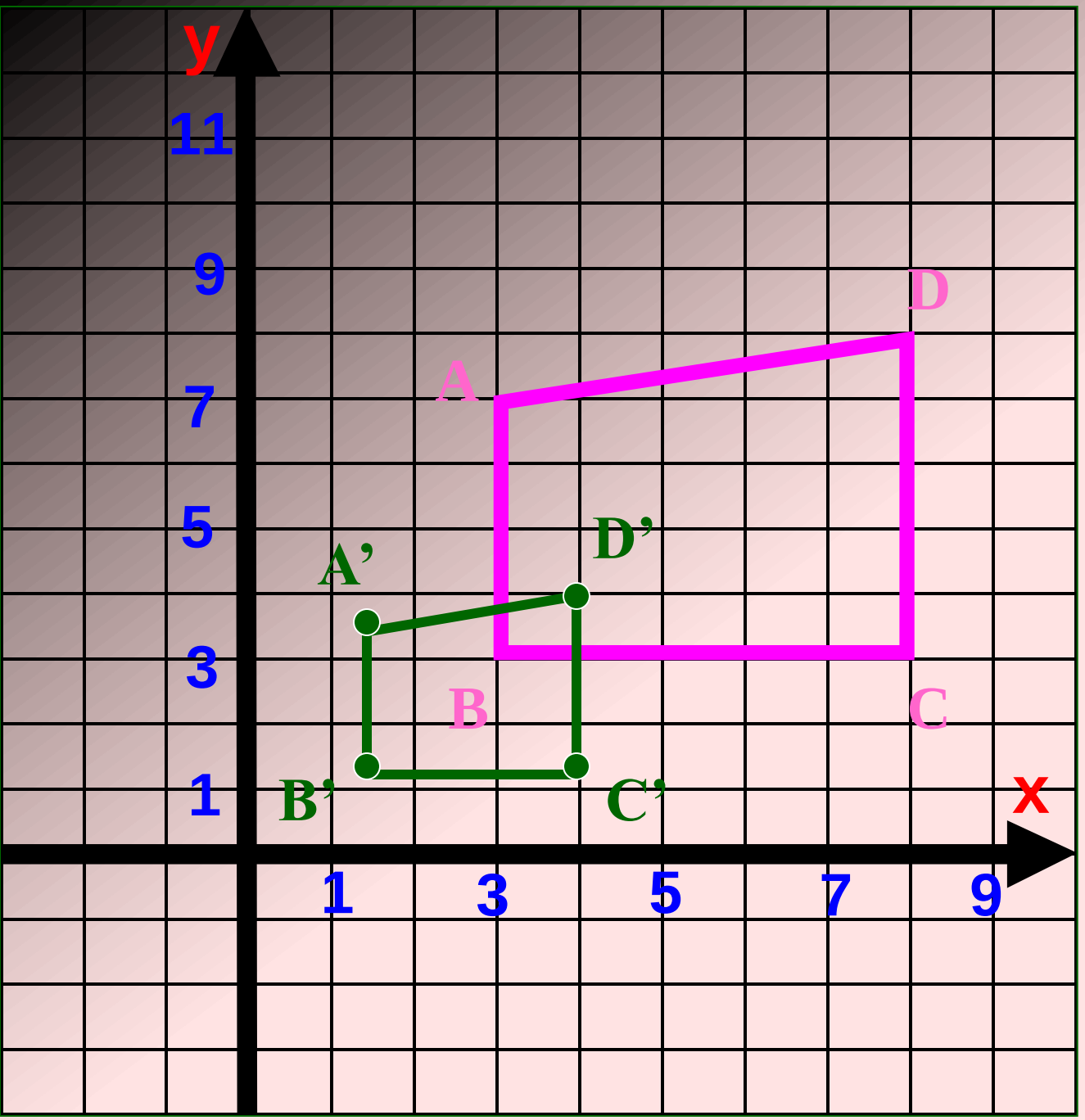
  x=(3)(.5) x=1.5

  y=(3)(.5) y=1.5

  Point B'(1.5,1.5)



Dilate figure ABCD by a scale factor of 50%. What are the coordinates for figure A'B'C'D'? What type of dilation occurred? What is the scale factor?



Dilate figure ABCD by a scale factor of 50%. What are the coordinates for figure A'B'C'D'? What type of dilation occurred? What is the scale factor?

A'(1.5,3.5)
B'(1.5,1.5)
C'(4,1.5)
D'(4,4)
Reduction
Scale Factor=.5

Dilations

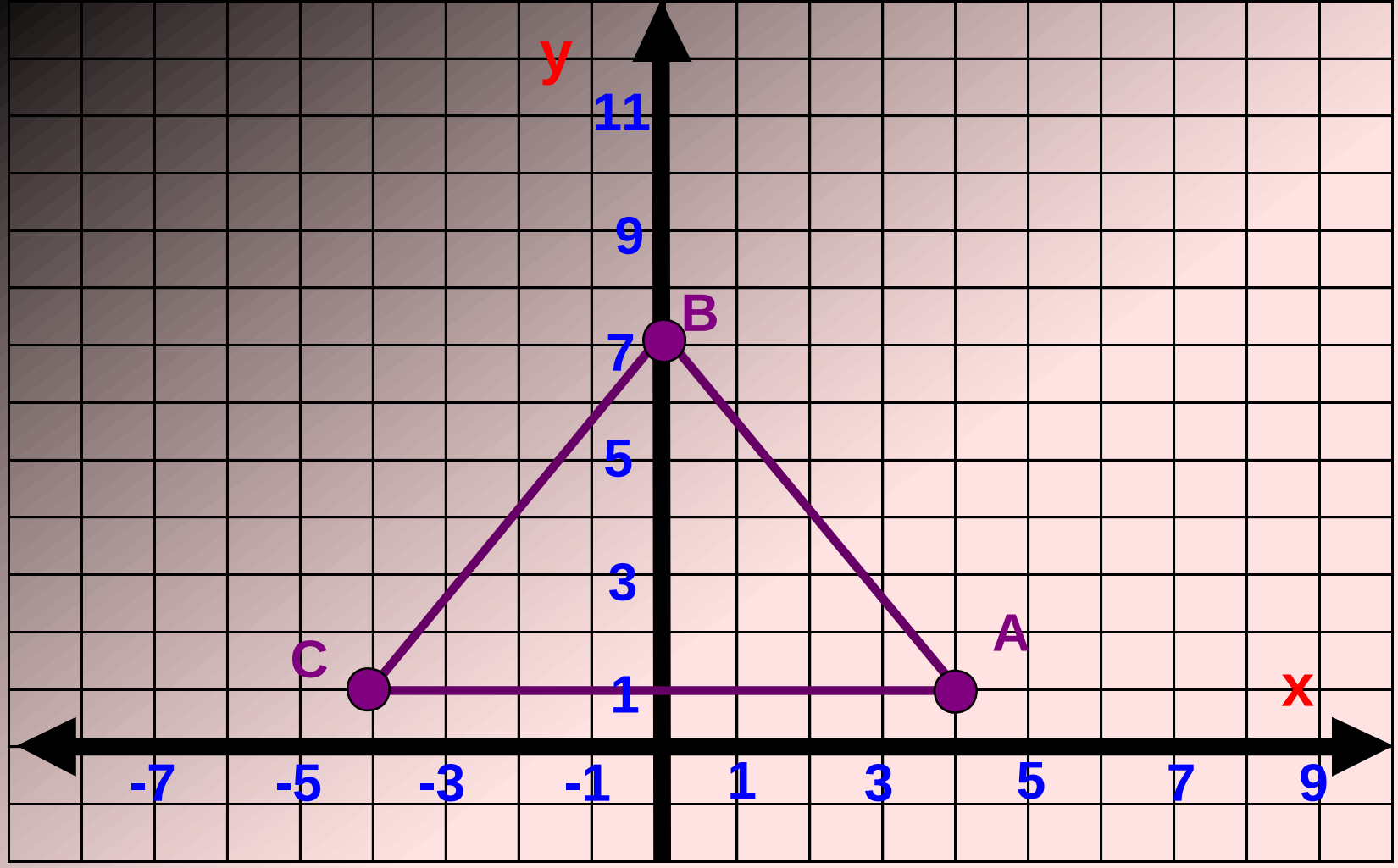
Dilate Triangle ABC by the two scale factors. Graph the 3 figures.

Scale Factor: .5

A(4,1) B(0,7) C(-4,1)

Scale Factor: 1.5

A(4,1) B(0,7) C(-4,1)



A (4 , 1)
B (0 , 7)
C (-4 , 1)

Scale Factor: .5

A' (4 •.5 , 1• .5)
B' (0•.5 , 7•.5)
C' (-4•.5 , 1•.5)

Scale Factor: 1.5

A'' (4•1.5 , 1 • 1.5)
B'' (0 • 1.5 , 7 • 1.5
C'' (-4 • 1.5 , 1 • 1.5)

Calculate the new points.

Scale Factor: .5

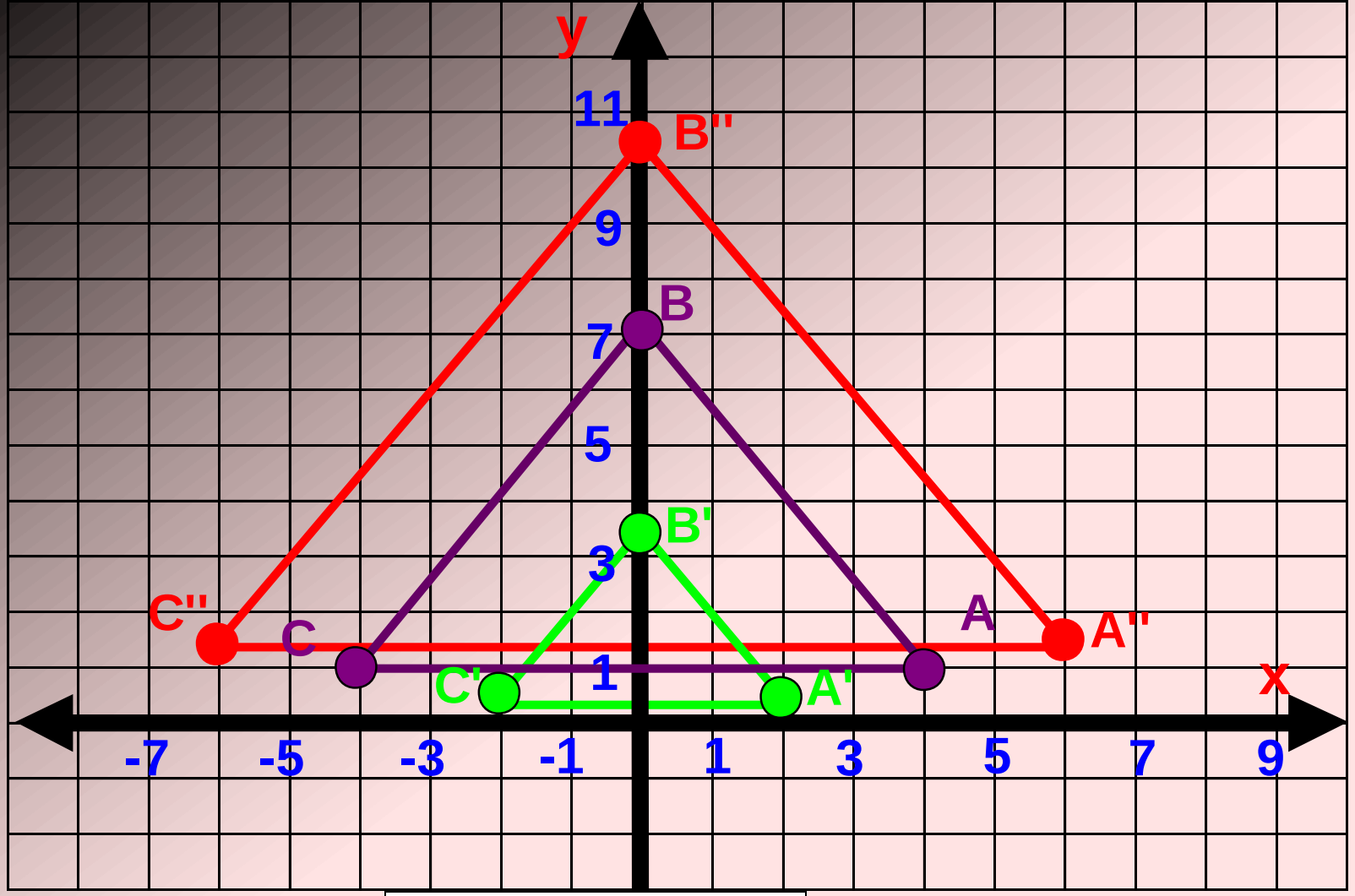
A(4,1) B(0,7) C(-4,1)

A'(2,.5) B'(0,3.5) C'(-2,.5)

Scale Factor: 1.5

A(4,1) B(0,7) C(-4,1)

A''(6,1.5) B''(0,10.5) C''(-6,1.5)



A (4 , 1)
B (0 , 7)
C (-4 , 1)

Scale Factor: .5

A' (2 , .5)
B' (0 , 3.5)
C' (-2 , .5)

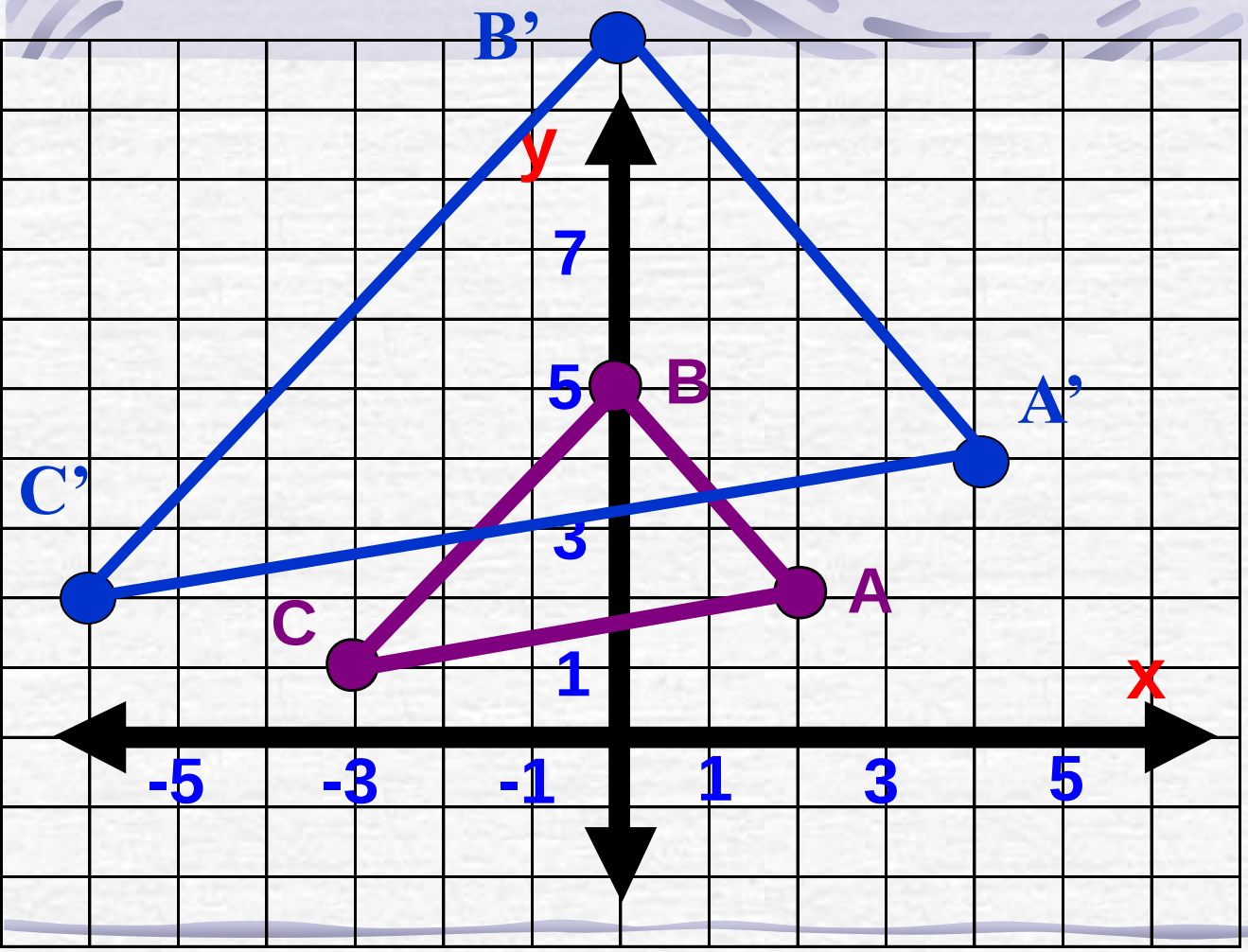
Scale Factor: 1.5

A'' (6 , 1.5)
B'' (0 , 10.5)
C'' (-6 , 1.5)

A (2,2)
B (0,5)
C (-3,1)

A’ (2x2, 2x2)
B’ (0x2, 5x2)
C’ (-3x2, 1x2)

A’ (4, 4)
B’ (0, 10)
C’ (-6, 2)



Dilate ∠ABC by a scale factor of 2.