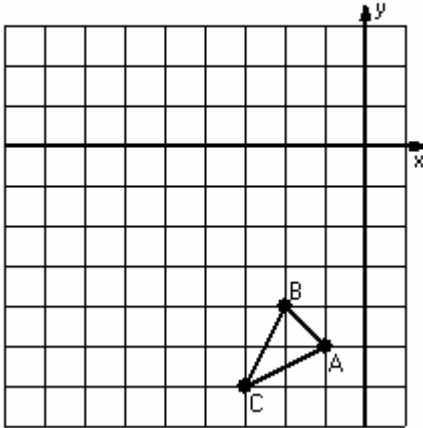


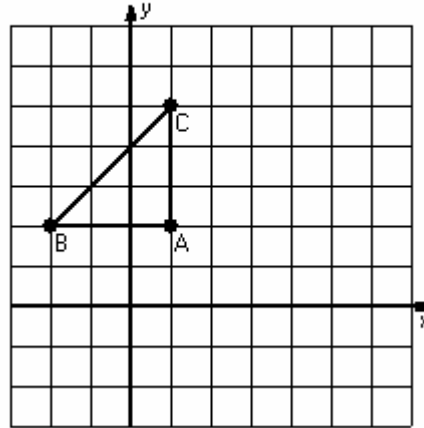
Three-Step Transformations (A)

Instructions: Transform each triangle three times using the instructions in the order given.
Draw and label each transformation.

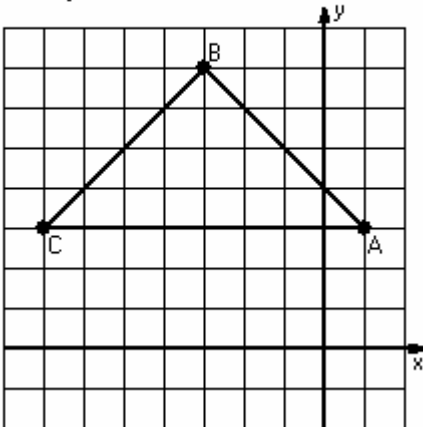
- 1) Translation (1,4)
Reflection $y = -3$
Rotation 180° , center $R(-3,-2)$



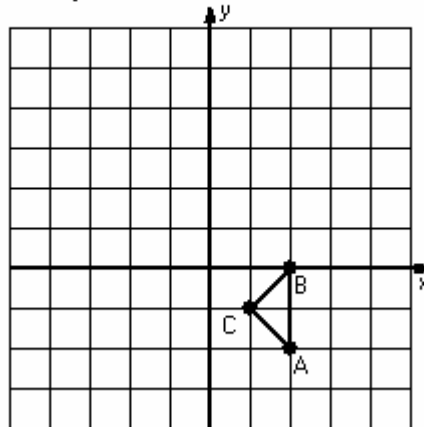
- 2) Dilation scale = $1/3$, center $D(4,2)$
Reflection $x = 1$
Translation (3,-2)



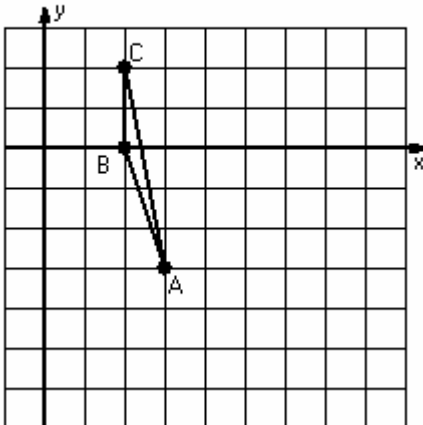
- 3) Dilation scale = $1/4$, center $D(-3,3)$
Translation (-3,-2)
Reflection $y = 3$



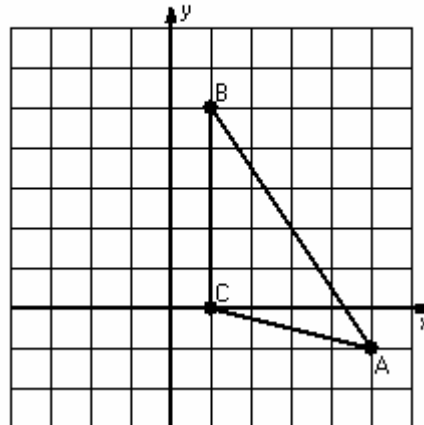
- 4) Translation (-2,3)
Rotation 90° counterclockwise, center $R(2,0)$
Reflection $y = 0$



- 5) Translation (1,0)
Rotation 180° , center $R(2,-1)$
Reflection $x = 4$



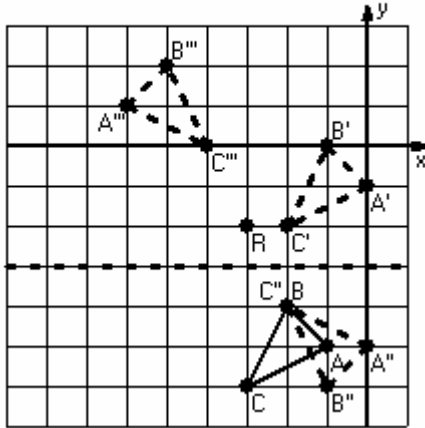
- 6) Rotation 90° counterclockwise, center $R(3,0)$
Translation (-1,4)
Reflection $x = 1$



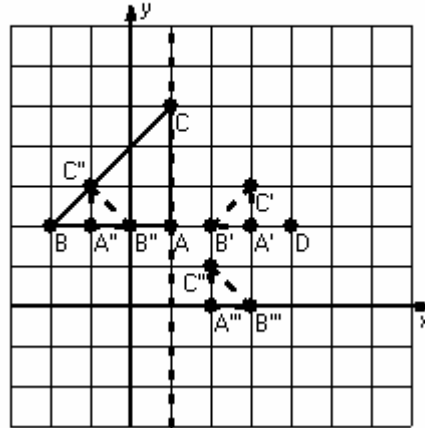
Three-Step Transformations Answer (A)

Instructions: Transform each triangle three times using the instructions in the order given.
Draw and label each transformation.

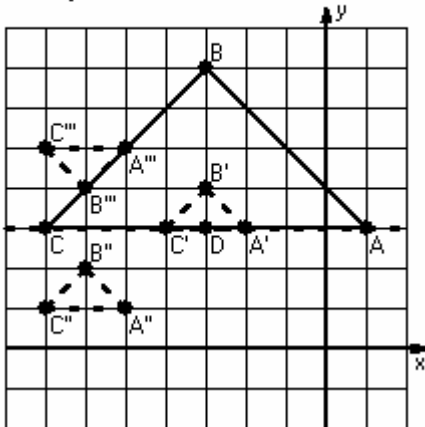
- 1) Translation (1,4)
Reflection $y = -3$
Rotation 180° , center $R(-3,-2)$



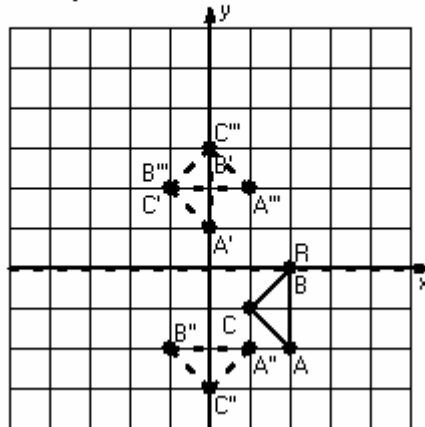
- 2) Dilation scale = $1/3$, center $D(4,2)$
Reflection $x = 1$
Translation (3,-2)



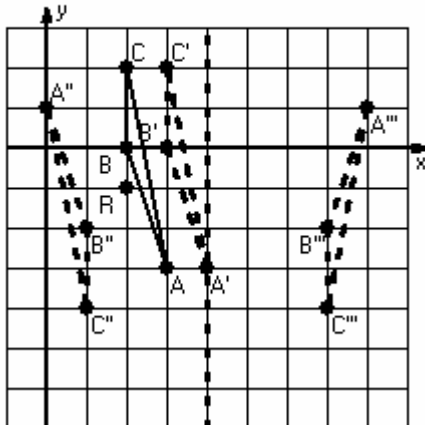
- 3) Dilation scale = $1/4$, center $D(-3,3)$
Translation (-3,-2)
Reflection $y = 3$



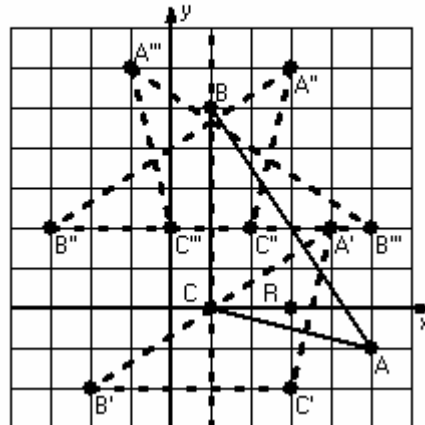
- 4) Translation (-2,3)
Rotation 90° counterclockwise, center $R(2,0)$
Reflection $y = 0$



- 5) Translation (1,0)
Rotation 180° , center $R(2,-1)$
Reflection $x = 4$



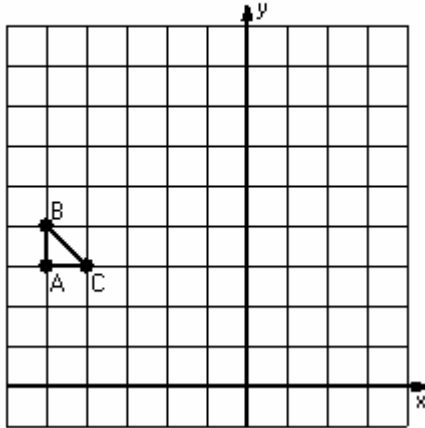
- 6) Rotation 90° counterclockwise, center $R(3,0)$
Translation (-1,4)
Reflection $x = 1$



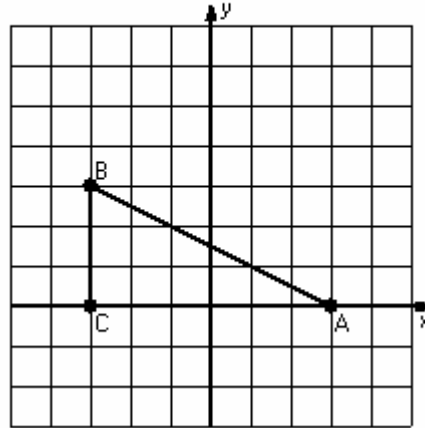
Three-Step Transformations (B)

Instructions: Transform each triangle three times using the instructions in the order given.
Draw and label each transformation.

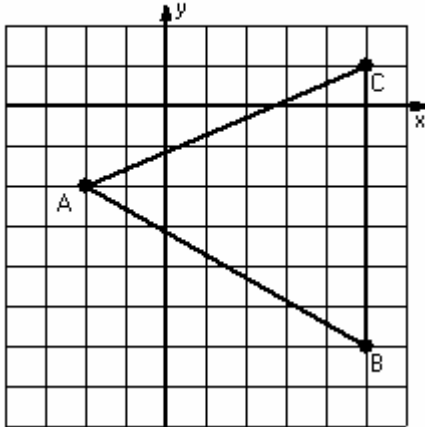
- 1) Reflection $y = 2$
Rotation 180° , center $R(-3,4)$
Translation $(4,-5)$



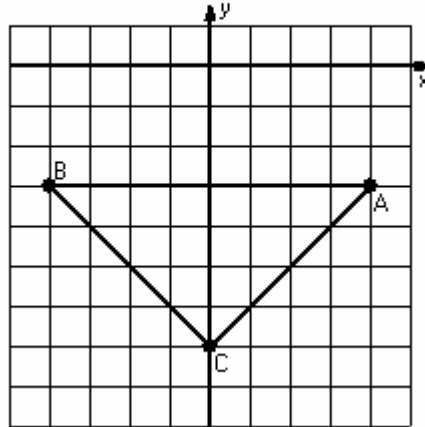
- 2) Dilation scale = $1/3$, center $D(3,3)$
Reflection $y = 4$
Translation $(-4,-4)$



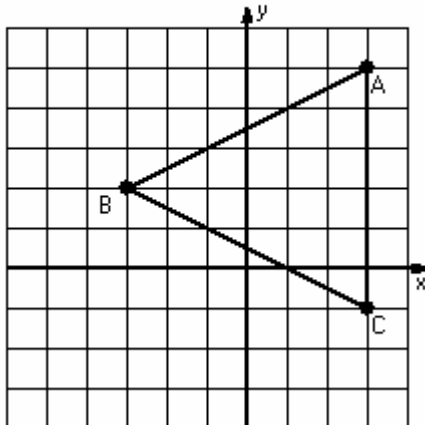
- 3) Reflection $x = 1$
Translation $(1,-1)$
Rotation 90° clockwise, center $R(1,-3)$



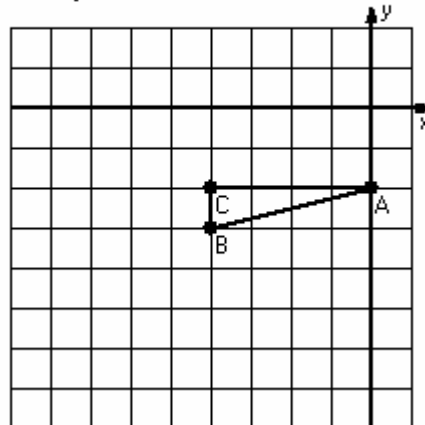
- 4) Dilation scale = $1/4$, center $D(0,-3)$
Rotation 180° , center $R(-1,-5)$
Reflection $x = 0$



- 5) Dilation scale = $1/3$, center $D(-3,-1)$
Translation $(4,4)$
Reflection $x = -1$



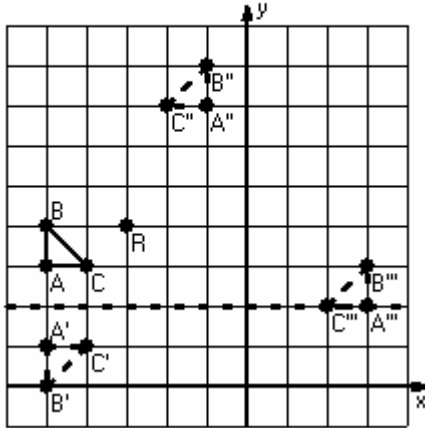
- 6) Translation $(-3,-4)$
Rotation 180° , center $R(-5,-5)$
Reflection $y = -2$



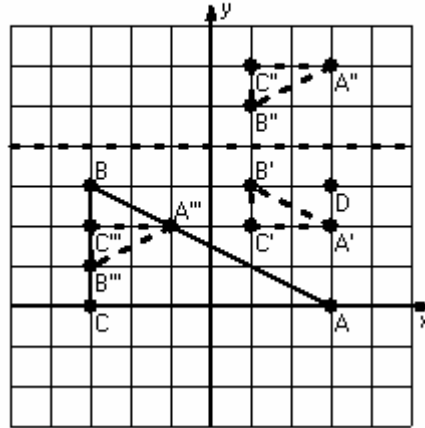
Three-Step Transformations Answer (B)

Instructions: Transform each triangle three times using the instructions in the order given.
Draw and label each transformation.

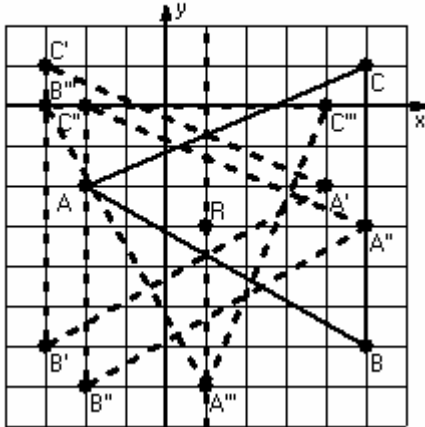
- 1) Reflection $y = 2$
Rotation 180° , center $R(-3,4)$
Translation $(4,-5)$



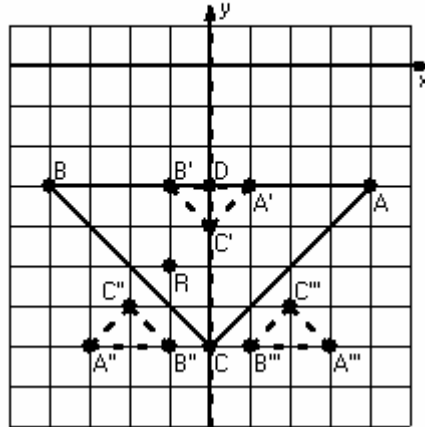
- 2) Dilation scale = $1/3$, center $D(3,3)$
Reflection $y = 4$
Translation $(-4,-4)$



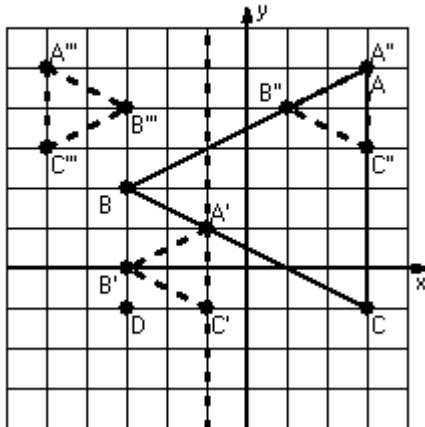
- 3) Reflection $x = 1$
Translation $(1,-1)$
Rotation 90° clockwise, center $R(1,-3)$



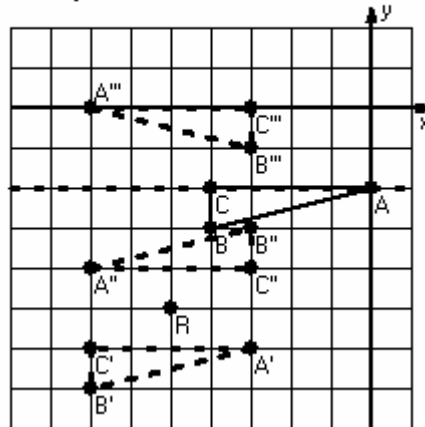
- 4) Dilation scale = $1/4$, center $D(0,-3)$
Rotation 180° , center $R(-1,-5)$
Reflection $x = 0$



- 5) Dilation scale = $1/3$, center $D(-3,-1)$
Translation $(4,4)$
Reflection $x = -1$



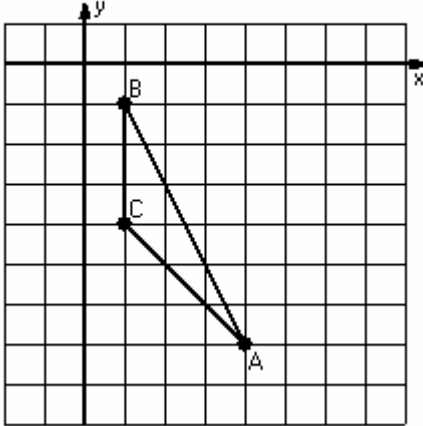
- 6) Translation $(-3,-4)$
Rotation 180° , center $R(-5,-5)$
Reflection $y = -2$



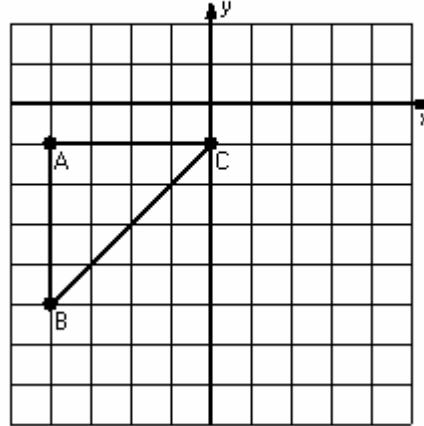
Three-Step Transformations (C)

Instructions: Transform each triangle three times using the instructions in the order given.
Draw and label each transformation.

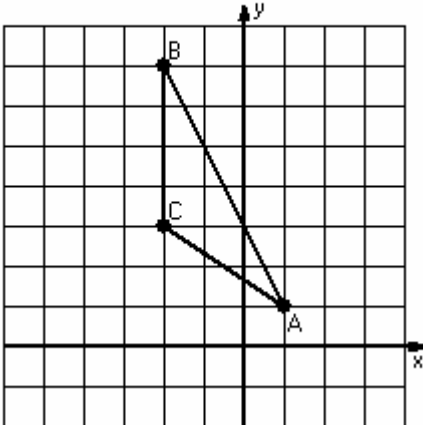
- 1) Dilation scale = $\frac{1}{3}$, center $D(4,-1)$
 Rotation 90° counterclockwise, center $R(4,-5)$
 Reflection $x = 3$



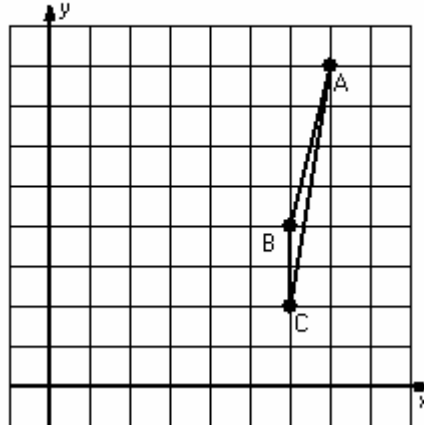
- 2) Dilation scale = $\frac{1}{4}$, center $D(0,-5)$
 Translation $(2,5)$
 Reflection $y = -2$



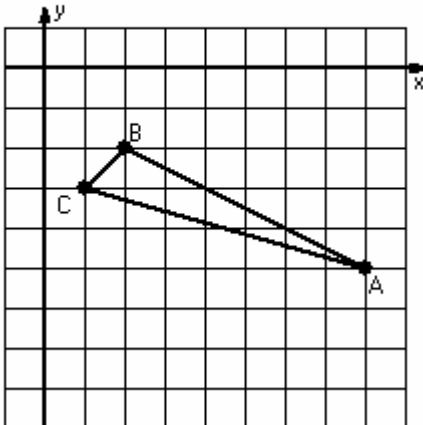
- 3) Translation $(2,-1)$
 Rotation 180° , center $R(-1,3)$
 Reflection $x = -1$



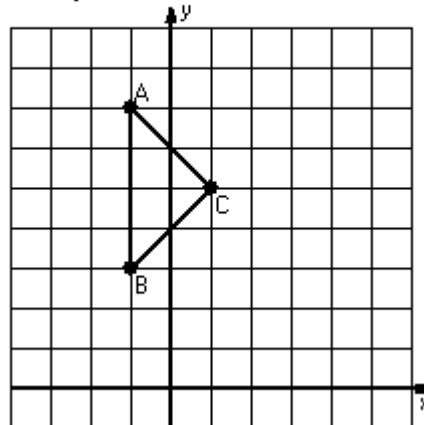
- 4) Rotation 90° clockwise, center $R(4,4)$
 Translation $(-1,6)$
 Reflection $y = 6$



- 5) Rotation 180° , center $R(4,-5)$
 Translation $(0,1)$
 Reflection $x = 4$



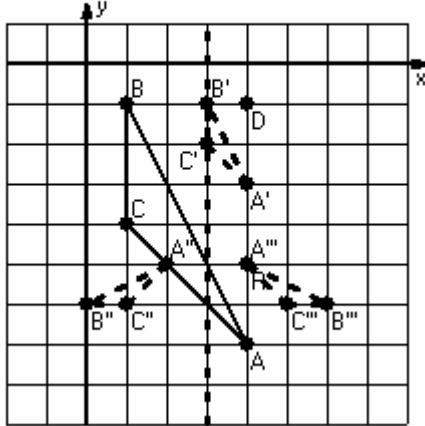
- 6) Dilation scale = $\frac{1}{2}$, center $D(1,1)$
 Rotation 90° clockwise, center $R(2,2)$
 Reflection $y = 2$



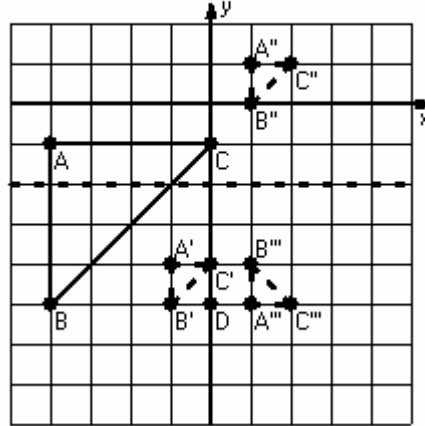
Three-Step Transformations Answer (C)

Instructions: Transform each triangle three times using the instructions in the order given.
Draw and label each transformation.

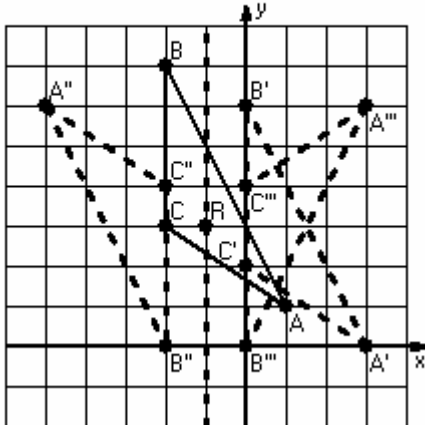
- 1) Dilation scale = $1/3$, center $D(4,-1)$
 Rotation 90° counterclockwise, center $R(4,-5)$
 Reflection $x = 3$



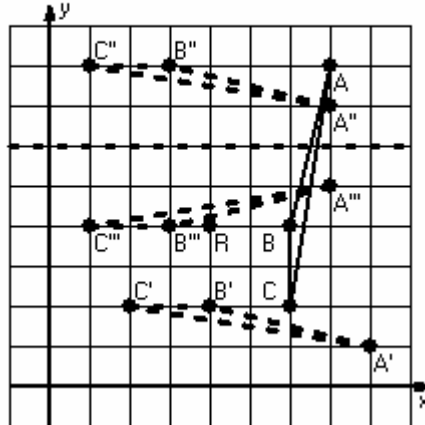
- 2) Dilation scale = $1/4$, center $D(0,-5)$
 Translation $(2,5)$
 Reflection $y = -2$



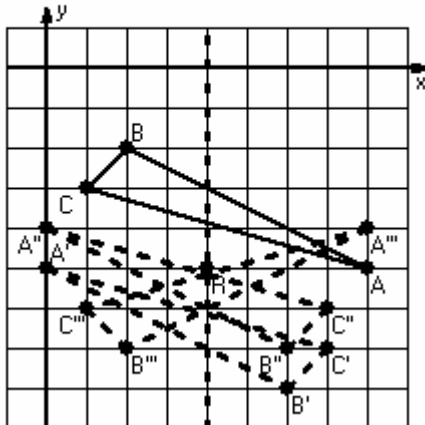
- 3) Translation $(2,-1)$
 Rotation 180° , center $R(-1,3)$
 Reflection $x = -1$



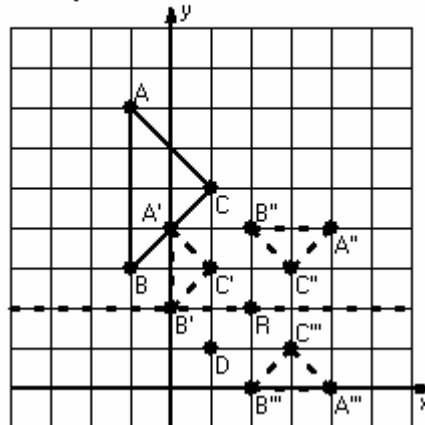
- 4) Rotation 90° clockwise, center $R(4,4)$
 Translation $(-1,6)$
 Reflection $y = 6$



- 5) Rotation 180° , center $R(4,-5)$
 Translation $(0,1)$
 Reflection $x = 4$



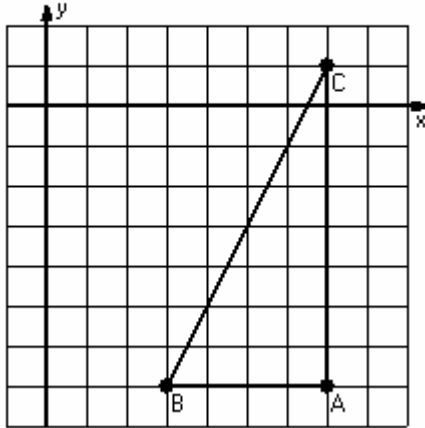
- 6) Dilation scale = $1/2$, center $D(1,1)$
 Rotation 90° clockwise, center $R(2,2)$
 Reflection $y = 2$



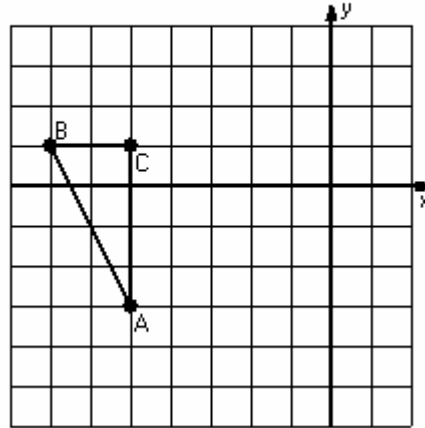
Three-Step Transformations (D)

Instructions: Transform each triangle three times using the instructions in the order given.
Draw and label each transformation.

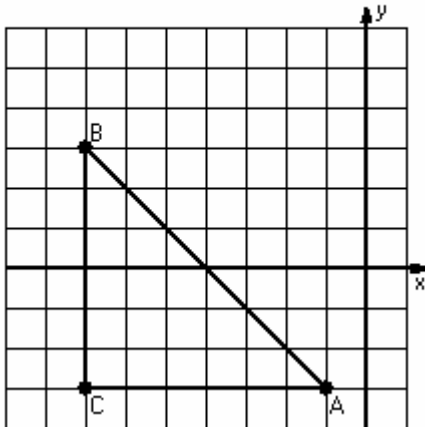
- 1) Dilation scale = $\frac{1}{4}$, center $D(7,-3)$
Reflection $x = 4$
Translation $(2,-3)$



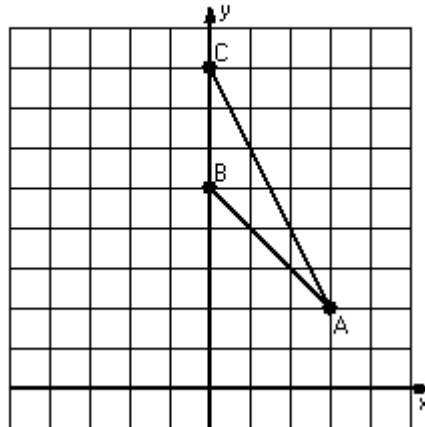
- 2) Reflection $y = 0$
Translation $(3,-2)$
Rotation 90° clockwise, center $R(-2,-1)$



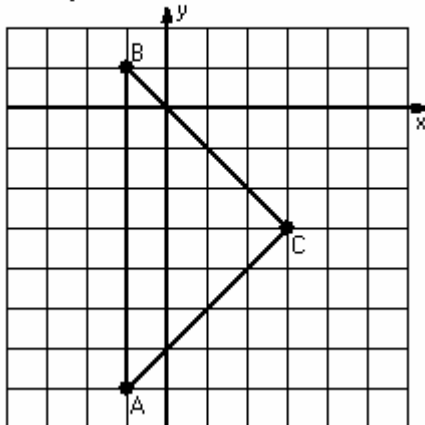
- 3) Dilation scale = $\frac{1}{3}$, center $D(-1,3)$
Rotation 90° counterclockwise, center $R(-2,1)$
Reflection $x = -5$



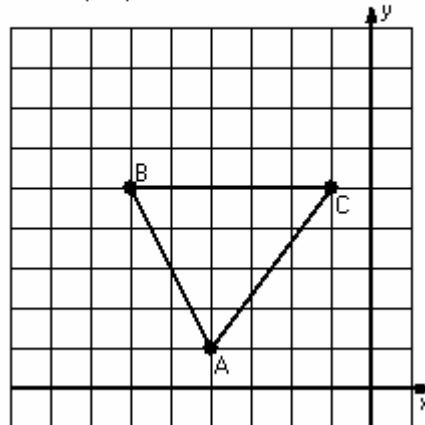
- 4) Dilation scale = $\frac{1}{3}$, center $D(-3,2)$
Translation $(1,3)$
Reflection $x = -2$



- 5) Dilation scale = $\frac{1}{4}$, center $D(-1,-3)$
Translation $(3,-2)$
Reflection $y = -3$



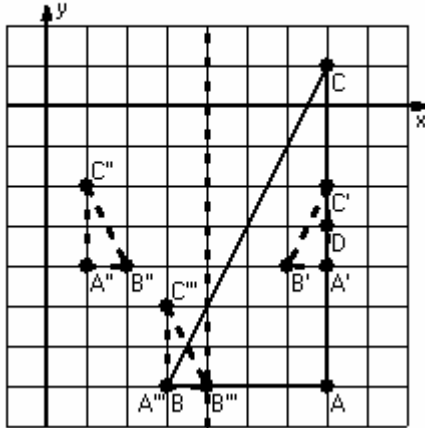
- 6) Reflection $y = 4$
Rotation 180° , center $R(-3,5)$
Translation $(-2,0)$



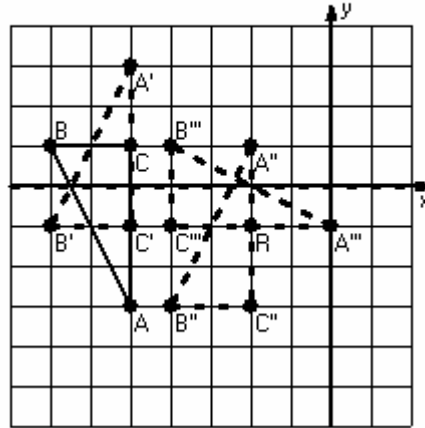
Three-Step Transformations Answer (D)

Instructions: Transform each triangle three times using the instructions in the order given.
Draw and label each transformation.

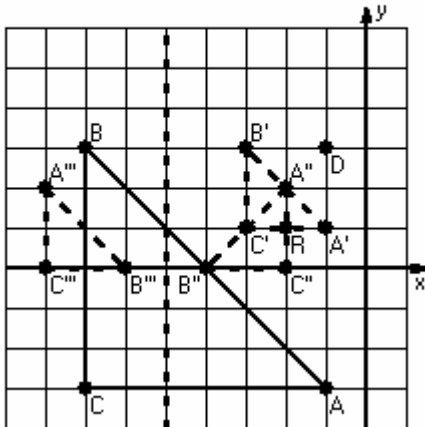
- 1) Dilation scale = $1/4$, center $D(7,-3)$
Reflection $x = 4$
Translation $(2,-3)$



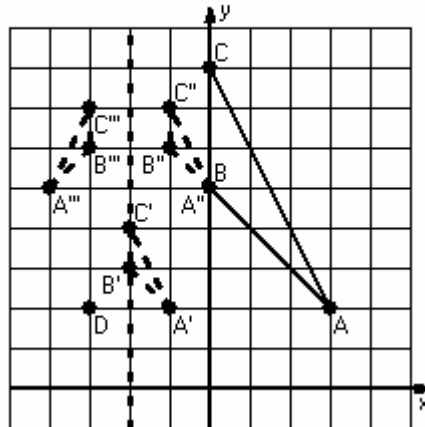
- 2) Reflection $y = 0$
Translation $(3,-2)$
Rotation 90° clockwise, center $R(-2,-1)$



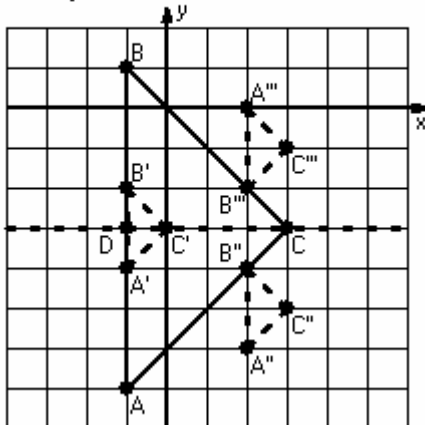
- 3) Dilation scale = $1/3$, center $D(-1,3)$
Rotation 90° counterclockwise, center $R(-2,1)$
Reflection $x = -5$



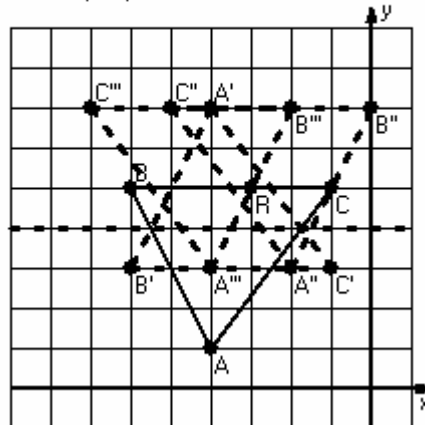
- 4) Dilation scale = $1/3$, center $D(-3,2)$
Translation $(1,3)$
Reflection $x = -2$



- 5) Dilation scale = $1/4$, center $D(-1,-3)$
Translation $(3,-2)$
Reflection $y = -3$



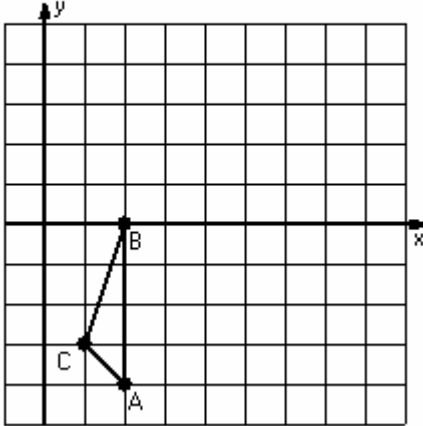
- 6) Reflection $y = 4$
Rotation 180° , center $R(-3,5)$
Translation $(-2,0)$



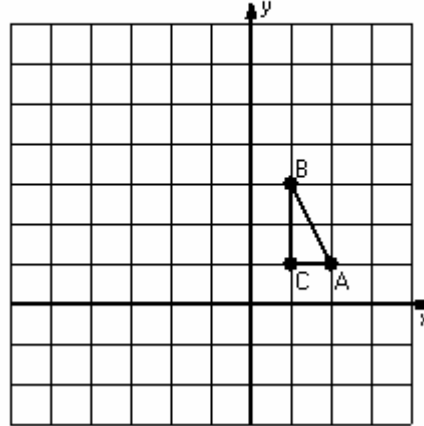
Three-Step Transformations (E)

Instructions: Transform each triangle three times using the instructions in the order given.
Draw and label each transformation.

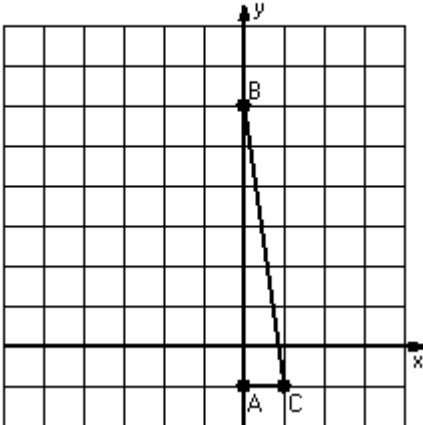
- 1) Translation (6,2)
Rotation 90° counterclockwise, center R(4,-2)
Reflection $y = 0$



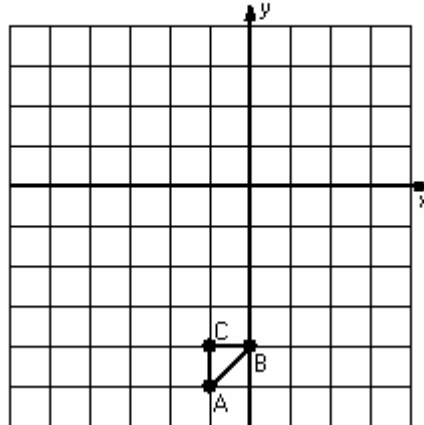
- 2) Dilation scale = 4, center D(2,2)
Translation (1,0)
Reflection $x = 0$



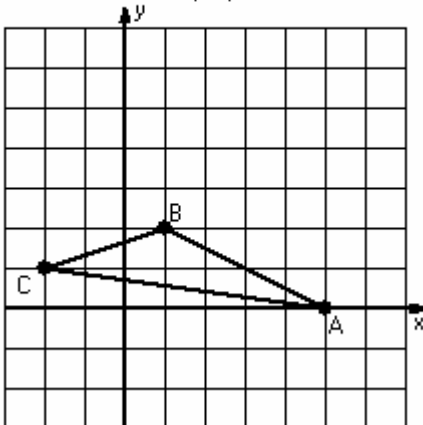
- 3) Rotation 90° counterclockwise, center R(1,1)
Translation (-1,1)
Reflection $y = 4$



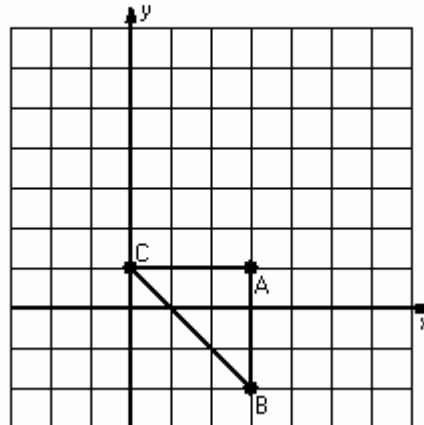
- 4) Translation (-3,2)
Reflection $x = -1$
Rotation 90° counterclockwise, center R(-1,-1)



- 5) Reflection $y = 3$
Translation (1,-6)
Rotation 180° , center R(2,2)



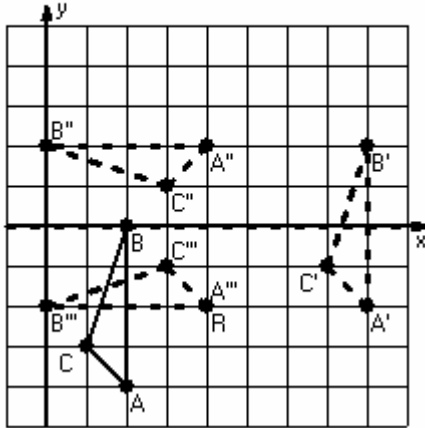
- 6) Dilation scale = $1/3$, center D(3,4)
Rotation 180° , center R(4,1)
Reflection $x = 3$



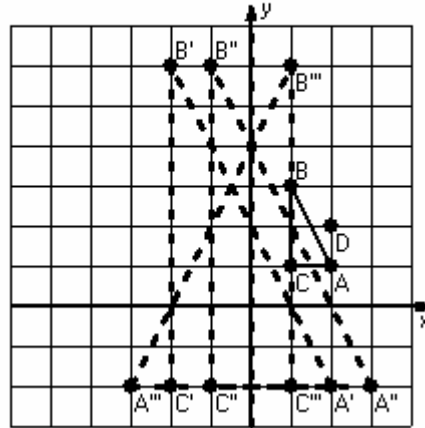
Three-Step Transformations Answer (E)

Instructions: Transform each triangle three times using the instructions in the order given.
Draw and label each transformation.

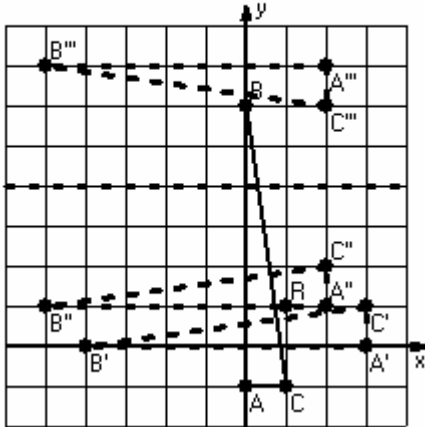
- 1) Translation (6,2)
Rotation 90° counterclockwise, center R(4,-2)
Reflection $y = 0$



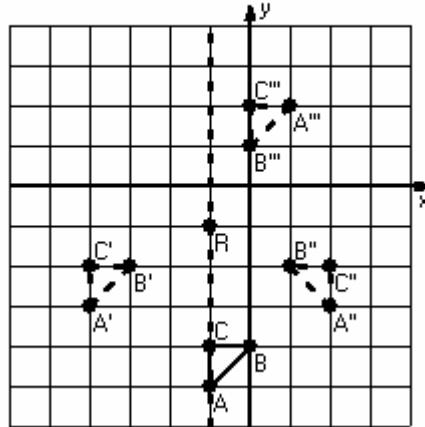
- 2) Dilation scale = 4, center D(2,2)
Translation (1,0)
Reflection $x = 0$



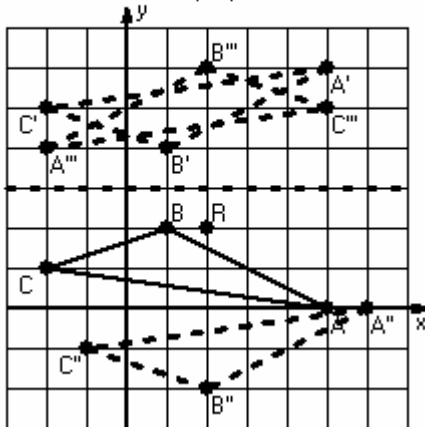
- 3) Rotation 90° counterclockwise, center R(1,1)
Translation (-1,1)
Reflection $y = 4$



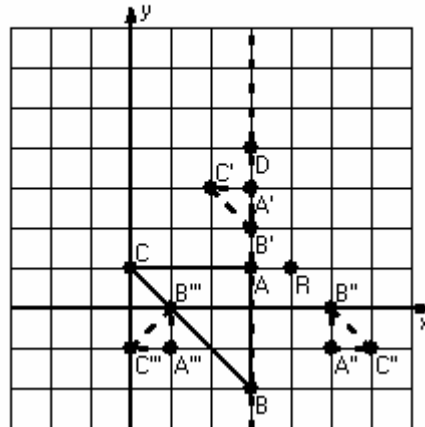
- 4) Translation (-3,2)
Reflection $x = -1$
Rotation 90° counterclockwise, center R(-1,-1)



- 5) Reflection $y = 3$
Translation (1,-6)
Rotation 180° , center R(2,2)



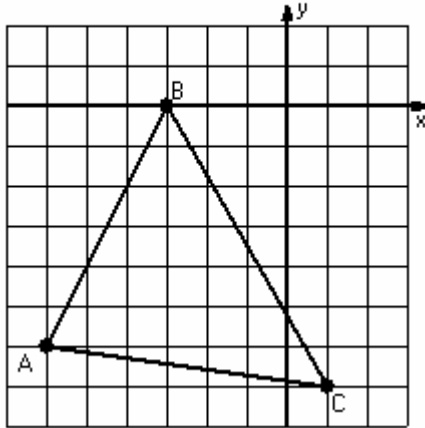
- 6) Dilation scale = $1/3$, center D(3,4)
Rotation 180° , center R(4,1)
Reflection $x = 3$



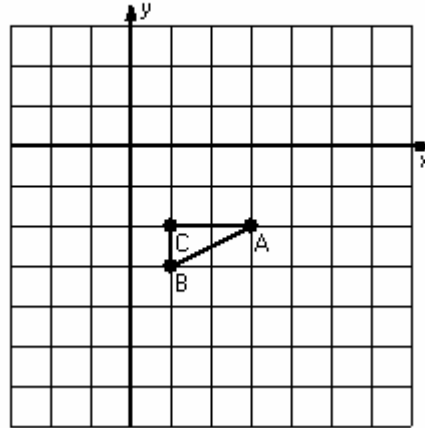
Three-Step Transformations (F)

Instructions: Transform each triangle three times using the instructions in the order given.
Draw and label each transformation.

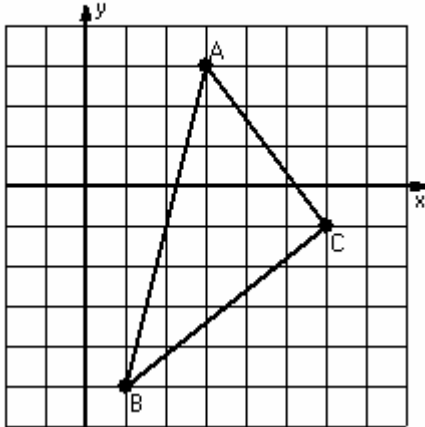
- 1) Reflection $x = -2$
 Rotation 90° clockwise, center $R(-1,-3)$
 Translation $(-1,-1)$



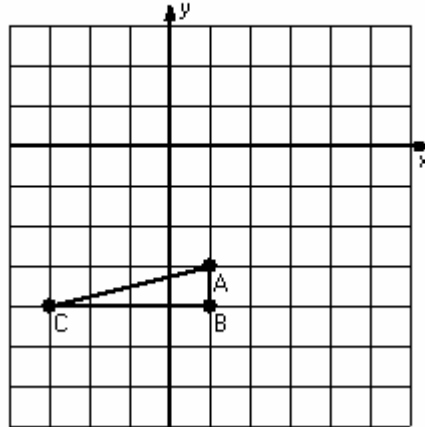
- 2) Dilation scale = 2, center $D(0,0)$
 Reflection $y = -3$
 Translation $(-1,0)$



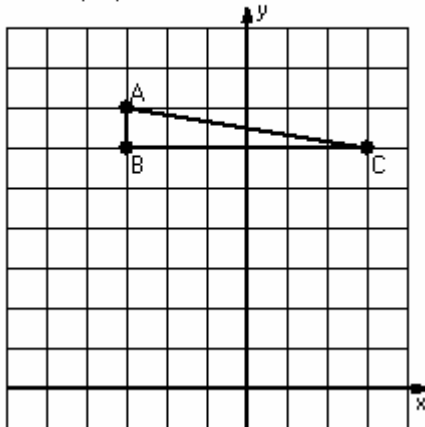
- 3) Reflection $x = 4$
 Translation $(-2,0)$
 Rotation 180° , center $R(3,-1)$



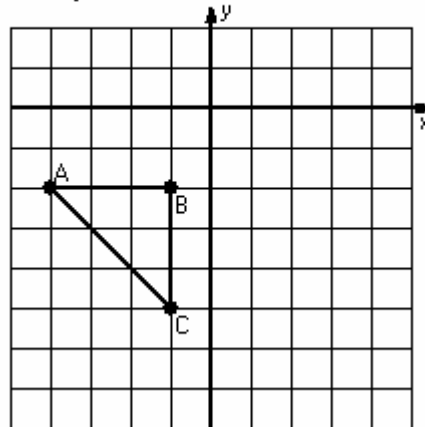
- 4) Reflection $y = -2$
 Rotation 180° , center $R(-1,-2)$
 Translation $(4,-2)$



- 5) Rotation 180° , center $R(0,4)$
 Reflection $x = -1$
 Translation $(0,3)$



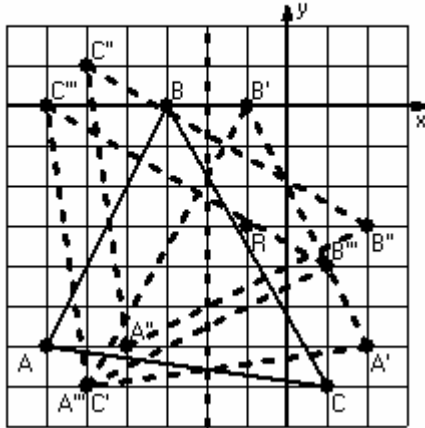
- 6) Dilation scale = $1/3$, center $D(2,-5)$
 Rotation 90° clockwise, center $R(-2,-4)$
 Reflection $y = -3$



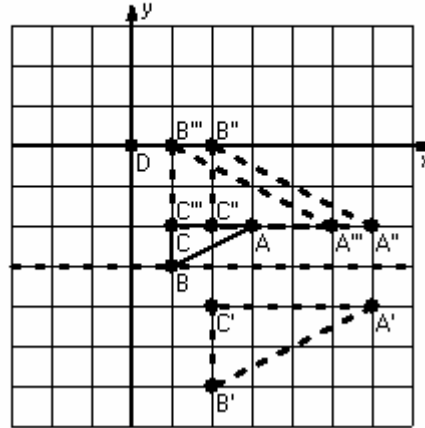
Three-Step Transformations Answer (F)

Instructions: Transform each triangle three times using the instructions in the order given.
Draw and label each transformation.

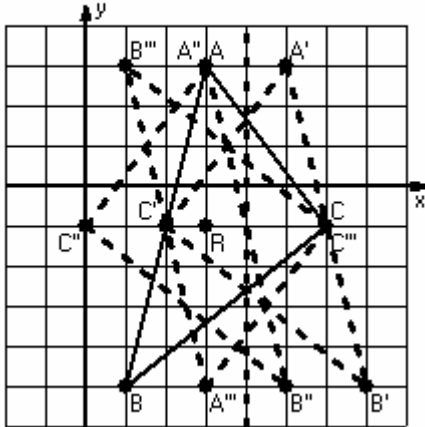
- 1) Reflection $x = -2$
Rotation 90° clockwise, center $R(-1,-3)$
Translation $(-1,-1)$



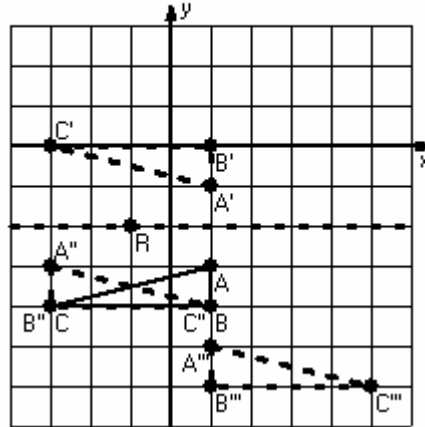
- 2) Dilation scale = 2, center $D(0,0)$
Reflection $y = -3$
Translation $(-1,0)$



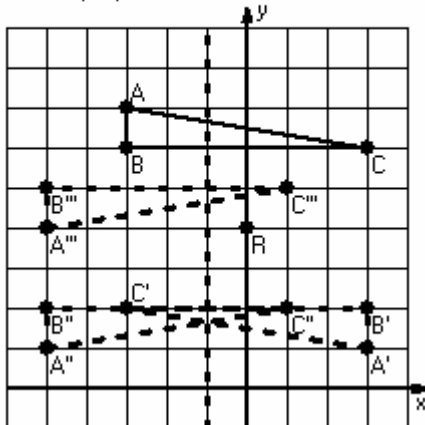
- 3) Reflection $x = 4$
Translation $(-2,0)$
Rotation 180° , center $R(3,-1)$



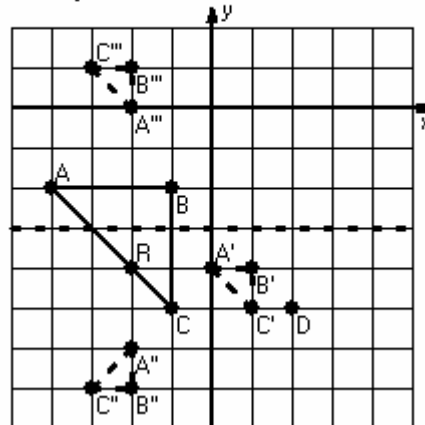
- 4) Reflection $y = -2$
Rotation 180° , center $R(-1,-2)$
Translation $(4,-2)$



- 5) Rotation 180° , center $R(0,4)$
Reflection $x = -1$
Translation $(0,3)$



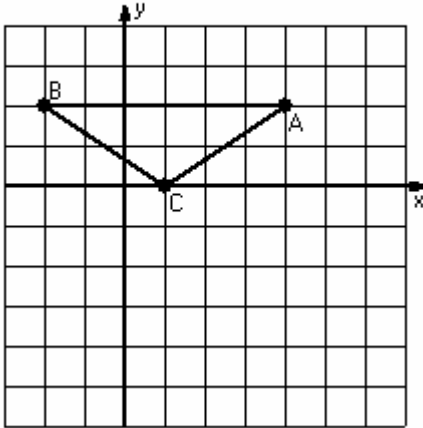
- 6) Dilation scale = $1/3$, center $D(2,-5)$
Rotation 90° clockwise, center $R(-2,-4)$
Reflection $y = -3$



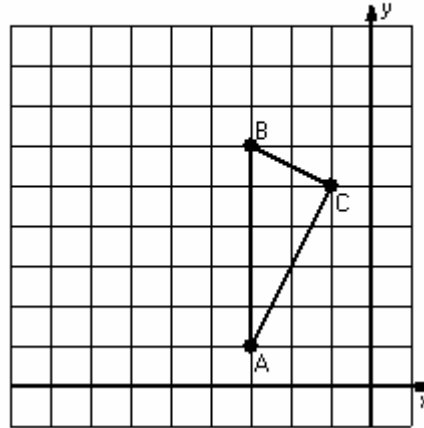
Three-Step Transformations (G)

Instructions: Transform each triangle three times using the instructions in the order given.
Draw and label each transformation.

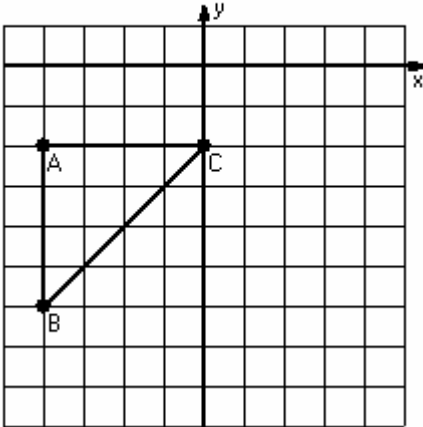
- 1) Translation $(1,1)$
 Rotation 90° counterclockwise, center $R(3,0)$
 Reflection $x = 3$



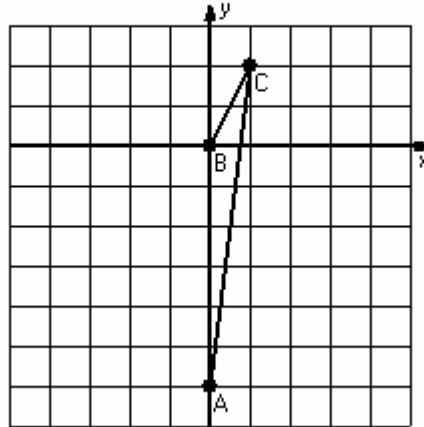
- 2) Reflection $y = 4$
 Rotation 90° clockwise, center $R(-4,5)$
 Translation $(-1,4)$



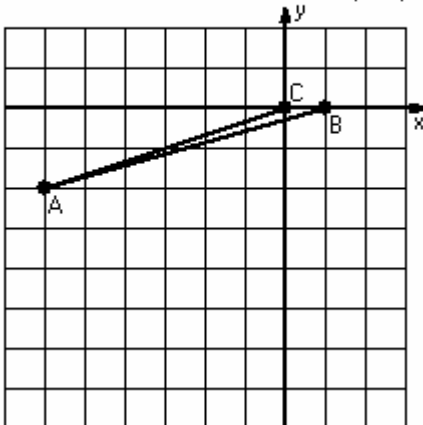
- 3) Dilation scale = $1/4$, center $D(0,-6)$
 Translation $(2,0)$
 Reflection $y = -4$



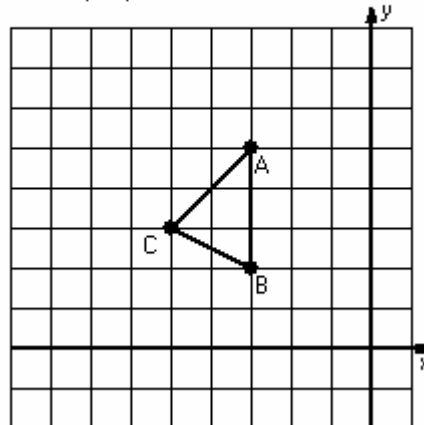
- 4) Reflection $x = 2$
 Translation $(-4,0)$
 Rotation 90° clockwise, center $R(1,-1)$



- 5) Translation $(1,-1)$
 Reflection $y = -4$
 Rotation 90° counterclockwise, center $R(-5,-6)$



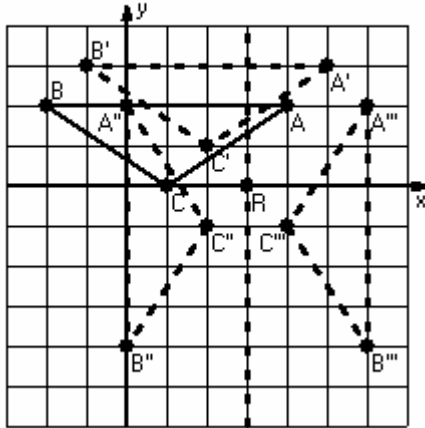
- 6) Dilation scale = 2 , center $D(-4,4)$
 Reflection $x = -3$
 Translation $(-4,0)$



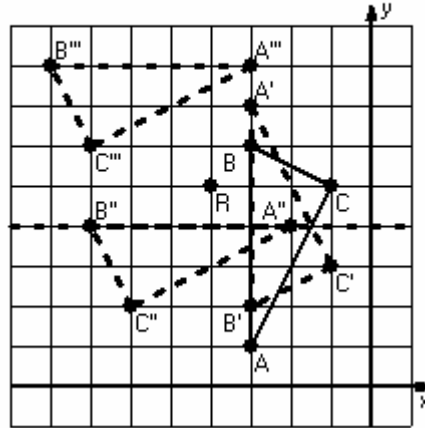
Three-Step Transformations Answer (G)

Instructions: Transform each triangle three times using the instructions in the order given.
Draw and label each transformation.

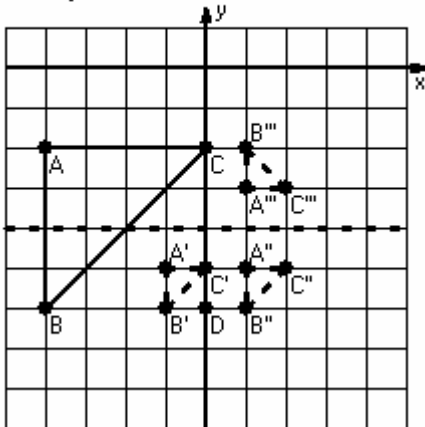
- 1) Translation (1,1)
Rotation 90° counterclockwise, center R(3,0)
Reflection $x = 3$



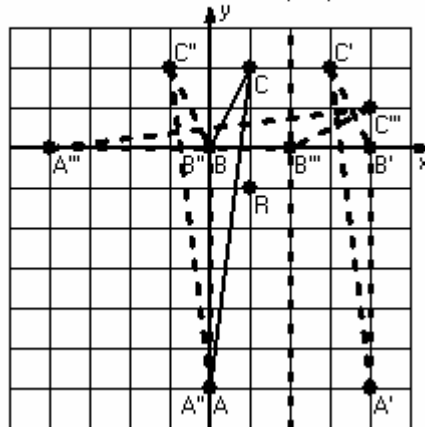
- 2) Reflection $y = 4$
Rotation 90° clockwise, center R(-4,5)
Translation (-1,4)



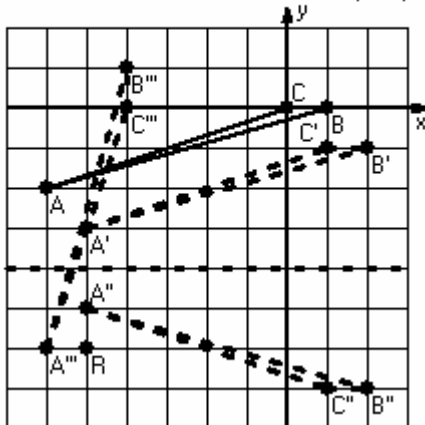
- 3) Dilation scale = $1/4$, center D(0,-6)
Translation (2,0)
Reflection $y = -4$



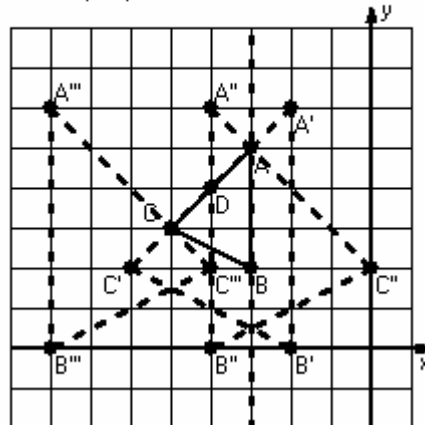
- 4) Reflection $x = 2$
Translation (-4,0)
Rotation 90° clockwise, center R(1,-1)



- 5) Translation (1,-1)
Reflection $y = -4$
Rotation 90° counterclockwise, center R(-5,-6)



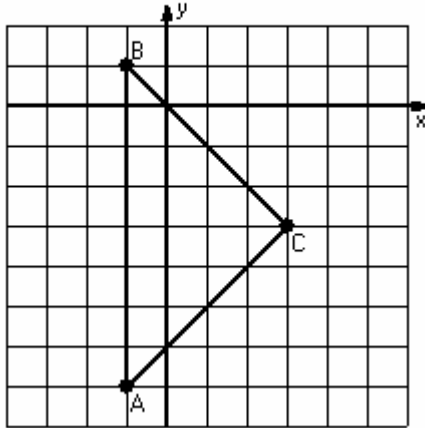
- 6) Dilation scale = 2, center D(-4,4)
Reflection $x = -3$
Translation (-4,0)



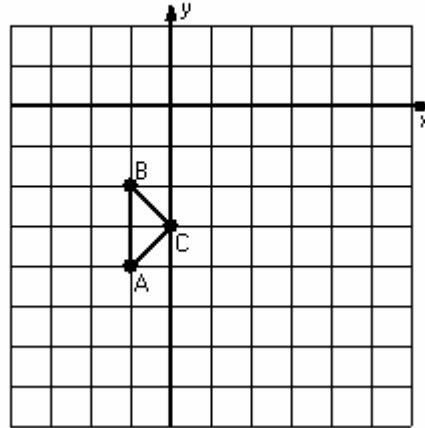
Three-Step Transformations (H)

Instructions: Transform each triangle three times using the instructions in the order given.
Draw and label each transformation.

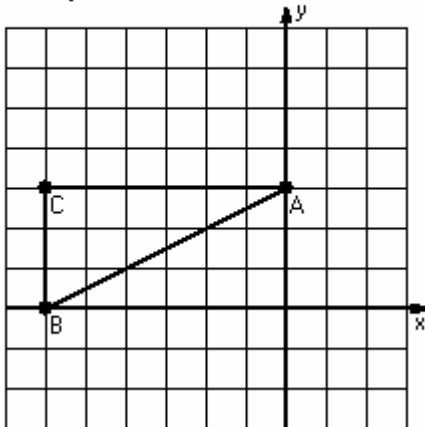
- 1) Dilation scale = $\frac{1}{4}$, center $D(-1,-3)$
Reflection $x = 1$
Translation $(-2,2)$



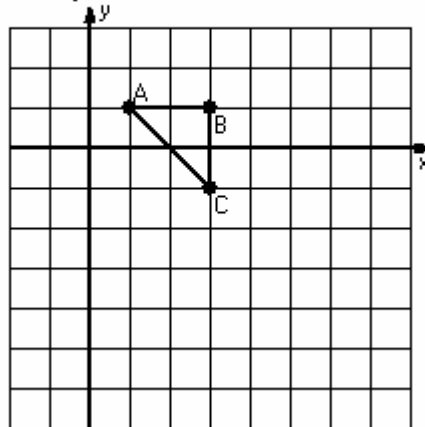
- 2) Dilation scale = 4, center $D(-1,-3)$
Reflection $x = 0$
Translation $(2,0)$



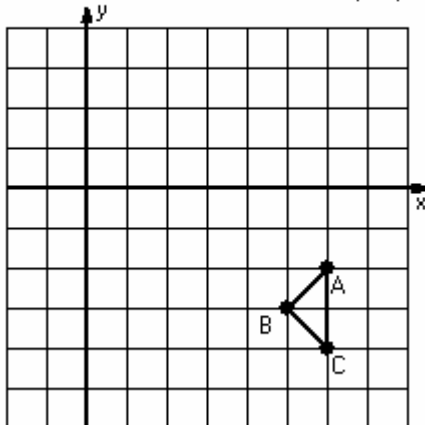
- 3) Dilation scale = $\frac{1}{3}$, center $D(0,0)$
Rotation 90° counterclockwise, center $R(-4,1)$
Reflection $y = 2$



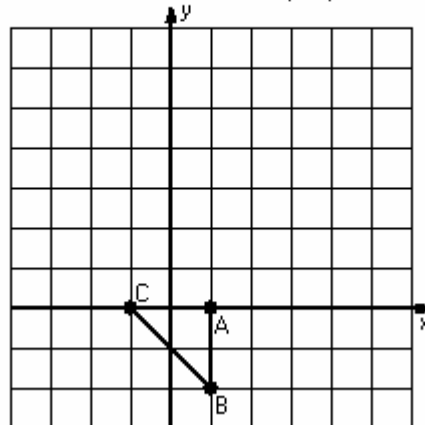
- 4) Rotation 90° clockwise, center $R(0,-1)$
Translation $(1,0)$
Reflection $y = -1$



- 5) Reflection $x = 3$
Translation $(2,4)$
Rotation 90° counterclockwise, center $R(4,-3)$



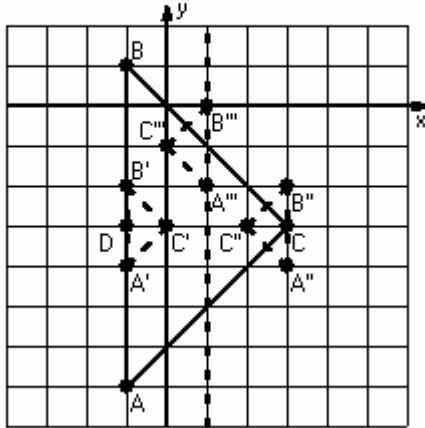
- 6) Translation $(1,2)$
Reflection $y = 3$
Rotation 90° clockwise, center $R(-1,1)$



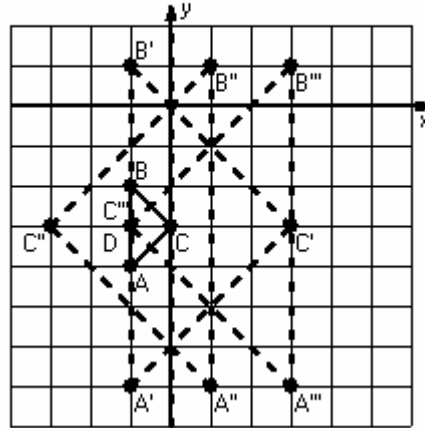
Three-Step Transformations Answer (H)

Instructions: Transform each triangle three times using the instructions in the order given.
Draw and label each transformation.

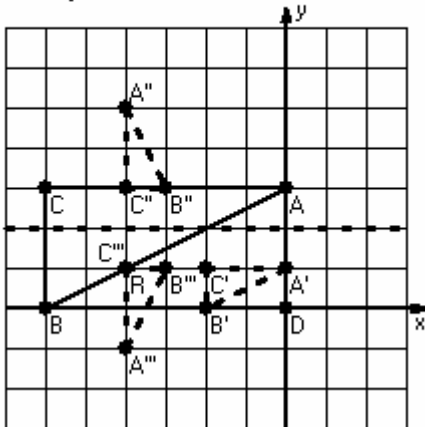
- 1) Dilation scale = $1/4$, center $D(-1,-3)$
Reflection $x = 1$
Translation $(-2,2)$



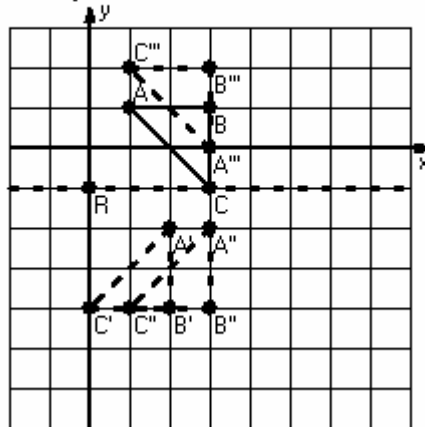
- 2) Dilation scale = 4, center $D(-1,-3)$
Reflection $x = 0$
Translation $(2,0)$



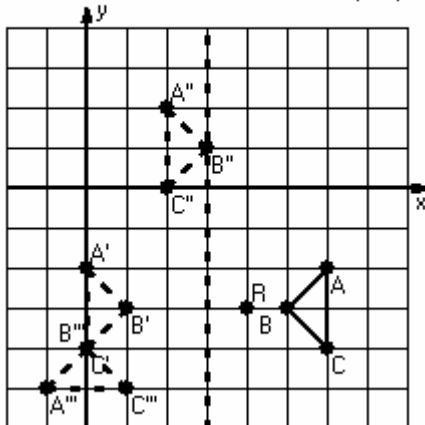
- 3) Dilation scale = $1/3$, center $D(0,0)$
Rotation 90° counterclockwise, center $R(-4,1)$
Reflection $y = 2$



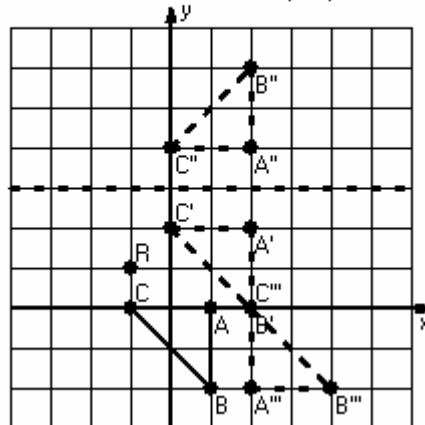
- 4) Rotation 90° clockwise, center $R(0,-1)$
Translation $(1,0)$
Reflection $y = -1$



- 5) Reflection $x = 3$
Translation $(2,4)$
Rotation 90° counterclockwise, center $R(4,-3)$



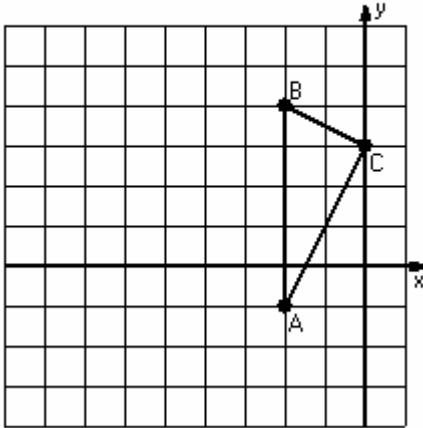
- 6) Translation $(1,2)$
Reflection $y = 3$
Rotation 90° clockwise, center $R(-1,1)$



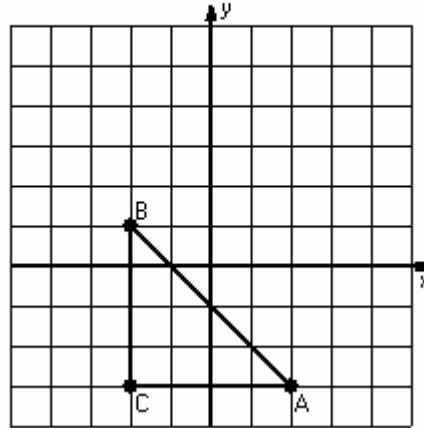
Three-Step Transformations (I)

Instructions: Transform each triangle three times using the instructions in the order given.
Draw and label each transformation.

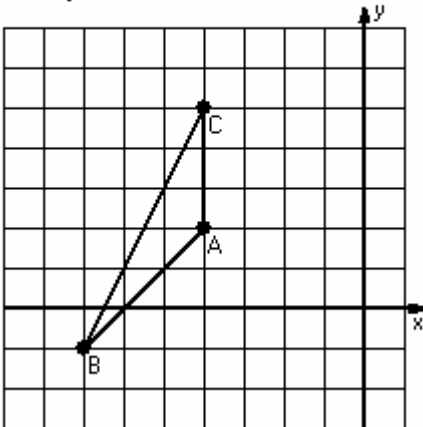
- 1) Translation $(-2,0)$
Reflection $x = -5$
Rotation 90° counterclockwise, center $R(-4,3)$



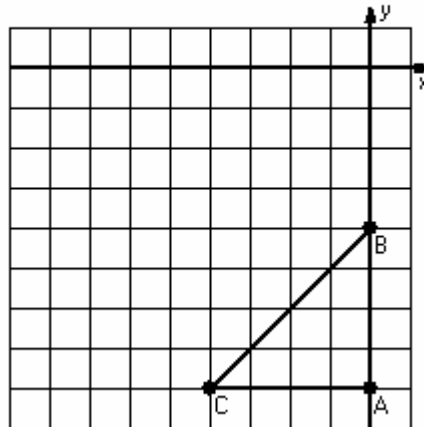
- 2) Dilation scale = $1/4$, center $D(2,1)$
Rotation 180° , center $R(-1,2)$
Reflection $y = 2$



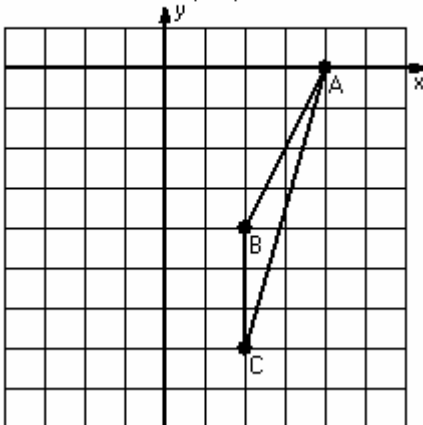
- 3) Dilation scale = $1/3$, center $D(-7,2)$
Rotation 90° clockwise, center $R(-4,3)$
Reflection $y = 2$



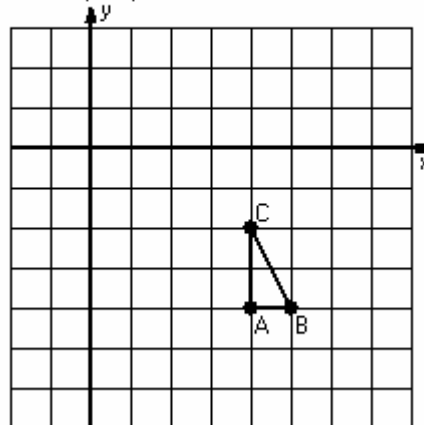
- 4) Dilation scale = $1/4$, center $D(-4,-4)$
Translation $(-2,-1)$
Reflection $x = -3$



- 5) Translation $(0,-1)$
Reflection $x = 1$
Rotation 180° , center $R(1,-4)$



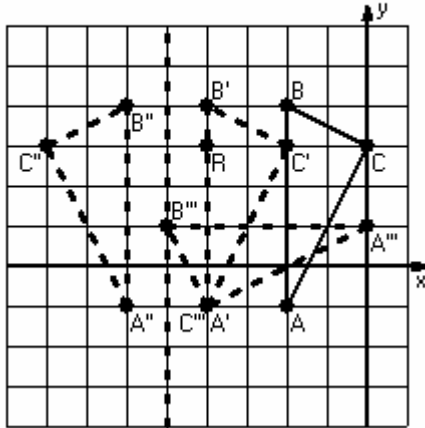
- 6) Dilation scale = 3 , center $D(4,-3)$
Reflection $y = -2$
Translation $(-5,-1)$



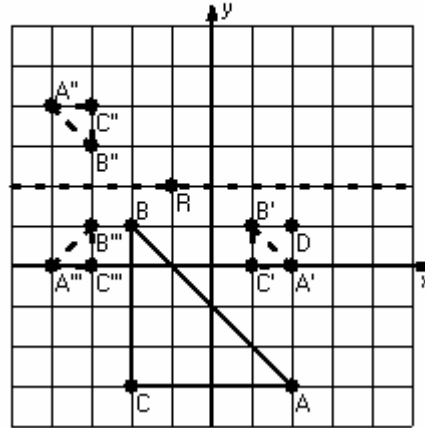
Three-Step Transformations Answer (I)

Instructions: Transform each triangle three times using the instructions in the order given.
Draw and label each transformation.

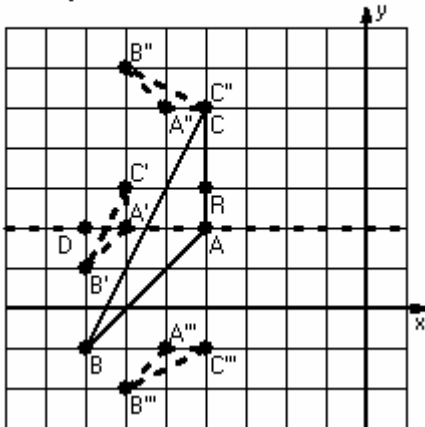
- 1) Translation $(-2,0)$
Reflection $x = -5$
Rotation 90° counterclockwise, center $R(-4,3)$



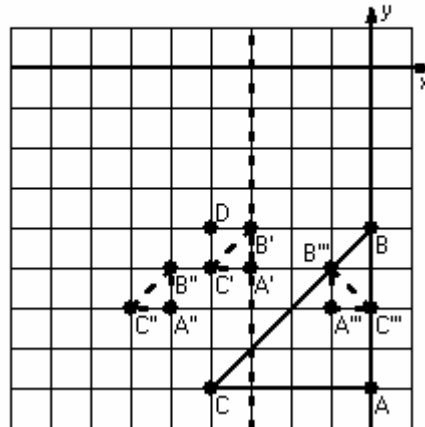
- 2) Dilation scale = $1/4$, center $D(2,1)$
Rotation 180° , center $R(-1,2)$
Reflection $y = 2$



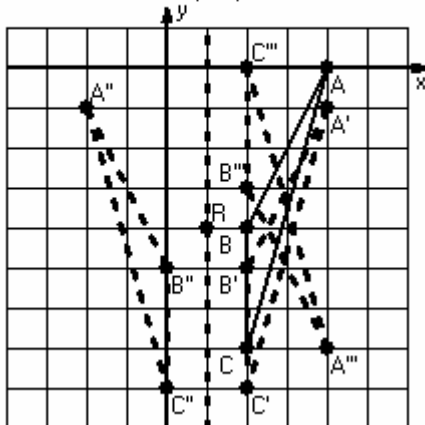
- 3) Dilation scale = $1/3$, center $D(-7,2)$
Rotation 90° clockwise, center $R(-4,3)$
Reflection $y = 2$



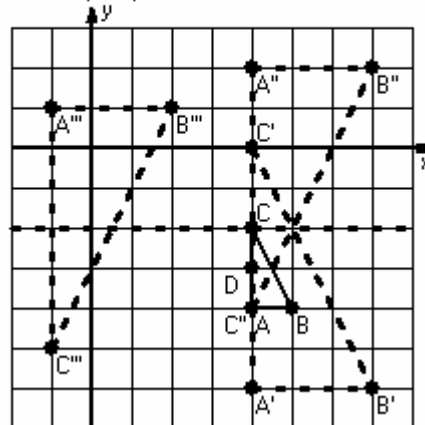
- 4) Dilation scale = $1/4$, center $D(-4,-4)$
Translation $(-2,-1)$
Reflection $x = -3$



- 5) Translation $(0,-1)$
Reflection $x = 1$
Rotation 180° , center $R(1,-4)$



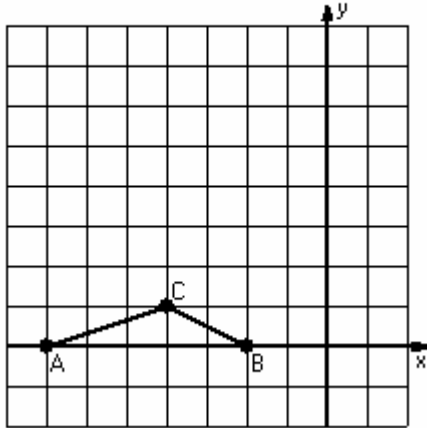
- 6) Dilation scale = 3, center $D(4,-3)$
Reflection $y = -2$
Translation $(-5,-1)$



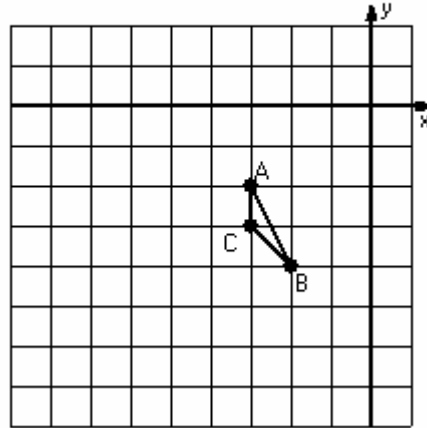
Three-Step Transformations (J)

Instructions: Transform each triangle three times using the instructions in the order given.
Draw and label each transformation.

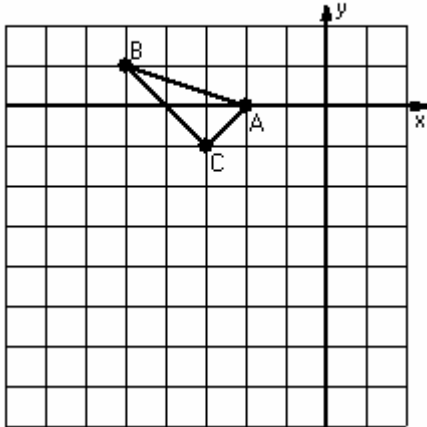
- 1) Translation (1,0)
Rotation 180° , center R(-4,1)
Reflection $y = 3$



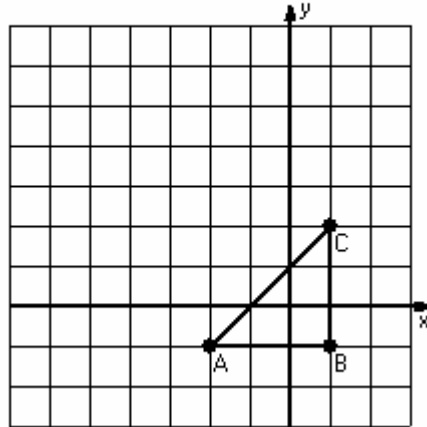
- 2) Dilation scale = 3, center D(-1,-3)
Reflection $x = -6$
Translation (5,1)



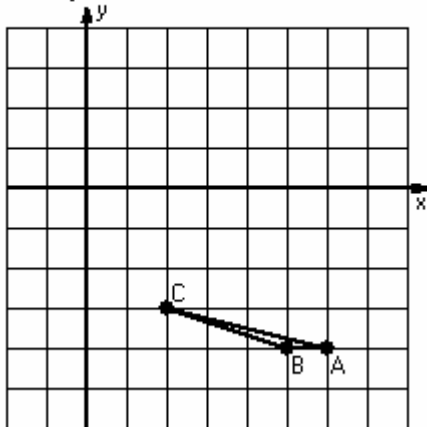
- 3) Reflection $y = -2$
Translation (0,-2)
Rotation 180° , center R(-3,-3)



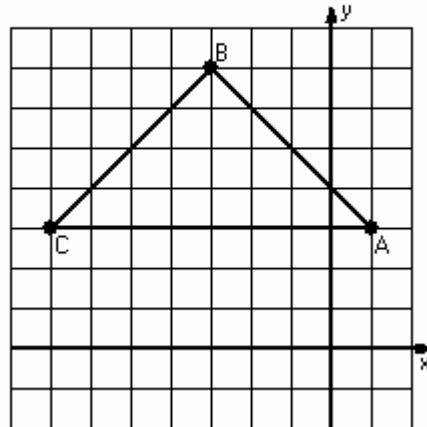
- 4) Dilation scale = $1/3$, center D(1,5)
Rotation 90° counterclockwise, center R(0,0)
Reflection $x = -1$



- 5) Rotation 180° , center R(4,-2)
Translation (-3,0)
Reflection $y = 1$



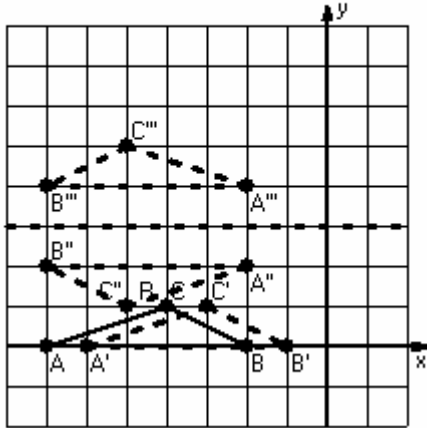
- 6) Dilation scale = $1/4$, center D(-3,3)
Rotation 90° clockwise, center R(-3,1)
Reflection $x = -2$



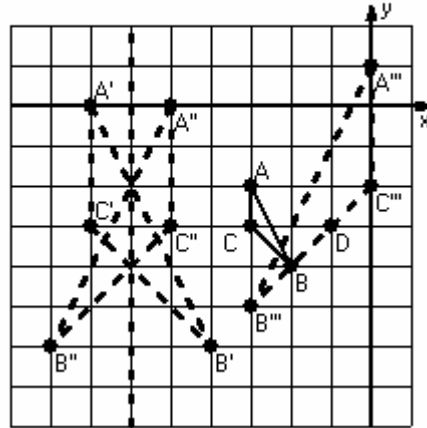
Three-Step Transformations Answer (J)

Instructions: Transform each triangle three times using the instructions in the order given.
Draw and label each transformation.

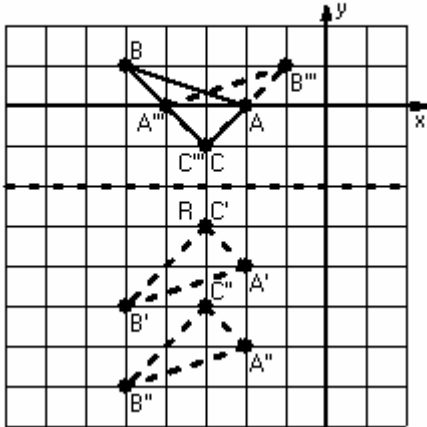
- 1) Translation (1,0)
Rotation 180° , center R(-4,1)
Reflection $y = 3$



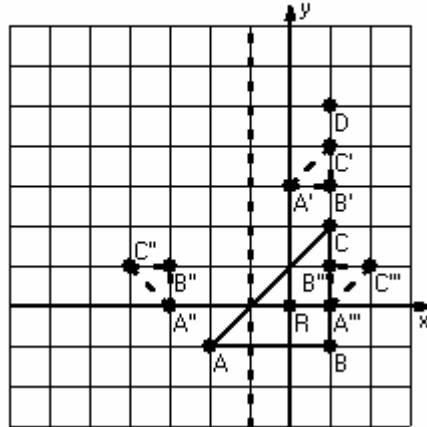
- 2) Dilation scale = 3, center D(-1,-3)
Reflection $x = -6$
Translation (5,1)



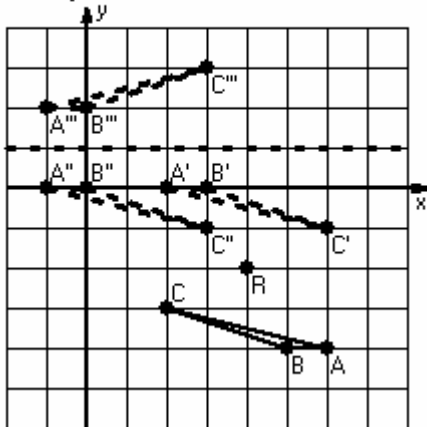
- 3) Reflection $y = -2$
Translation (0,-2)
Rotation 180° , center R(-3,-3)



- 4) Dilation scale = 1/3, center D(1,5)
Rotation 90° counterclockwise, center R(0,0)
Reflection $x = -1$



- 5) Rotation 180° , center R(4,-2)
Translation (-3,0)
Reflection $y = 1$



- 6) Dilation scale = 1/4, center D(-3,3)
Rotation 90° clockwise, center R(-3,1)
Reflection $x = -2$

