

Coordinate Algebra

Practice

EOCT Answers

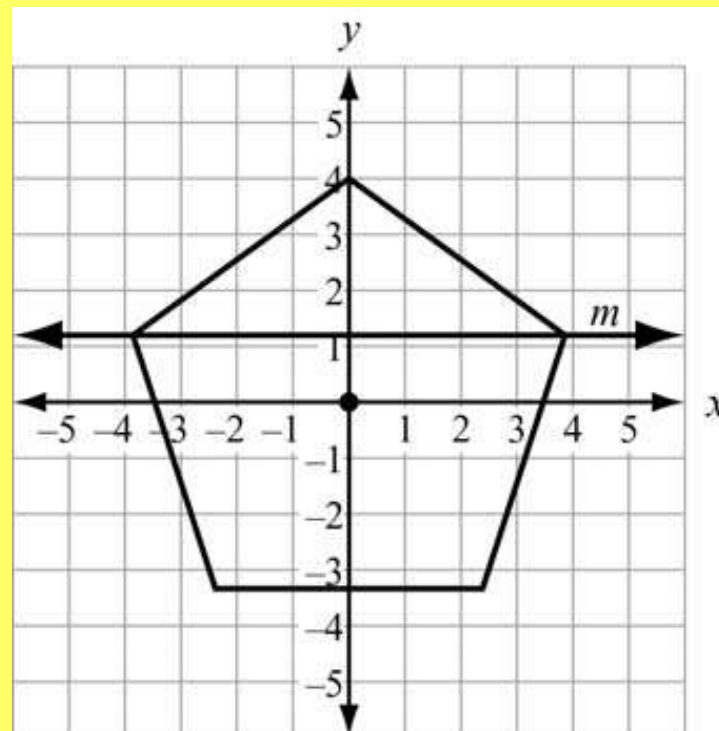
Unit 5

#1

Unit 5

A regular pentagon is centered about the origin and has a vertex at $(0, 4)$. Which transformation maps the pentagon to itself?

- A. a reflection across line m
- B. a reflection across the x -axis
- a clockwise rotation of 100° about the origin
- a clockwise rotation of 144° about the origin

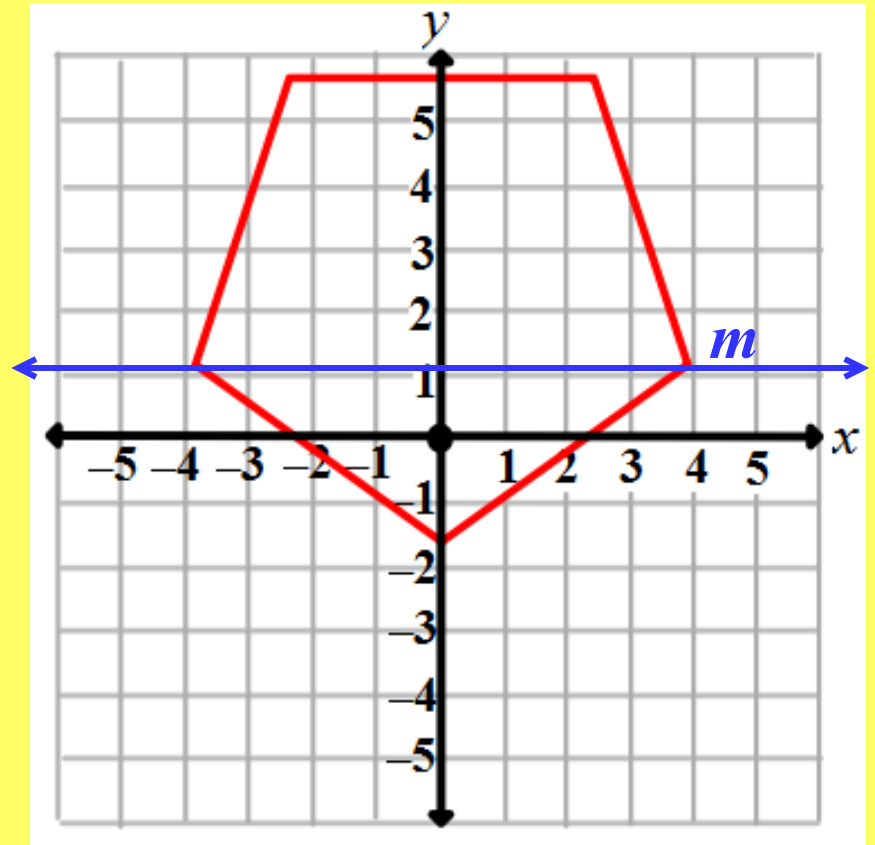
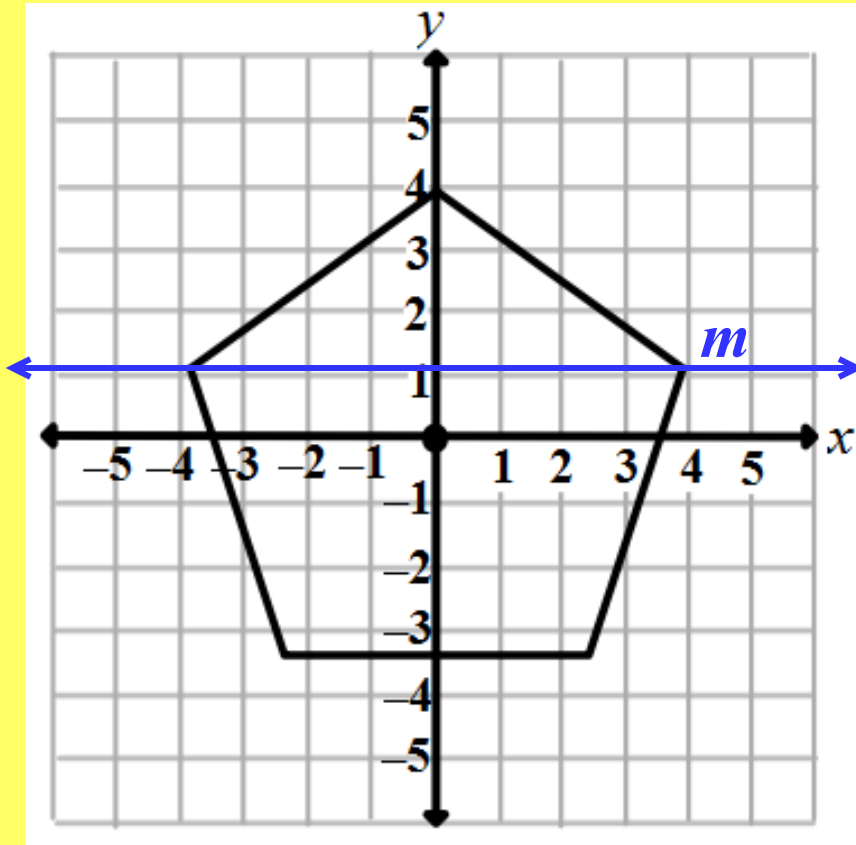


#1

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A regular pentagon is centered about the origin and has a vertex at $(0, 4)$. Which transformation maps the pentagon to itself?

~~A.~~ a reflection across line m

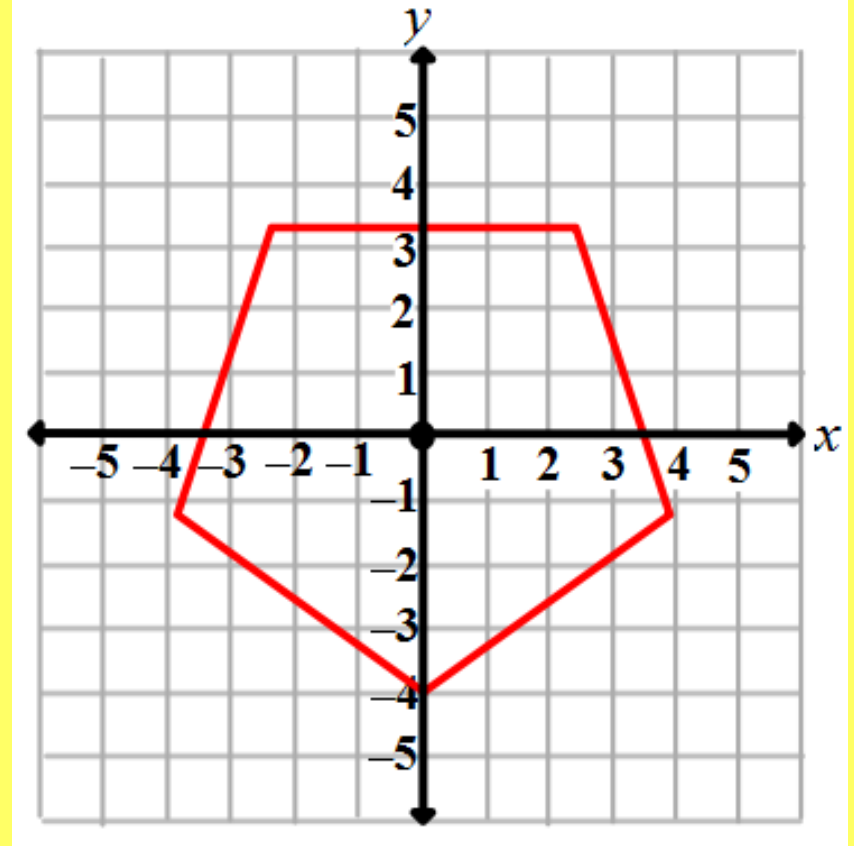
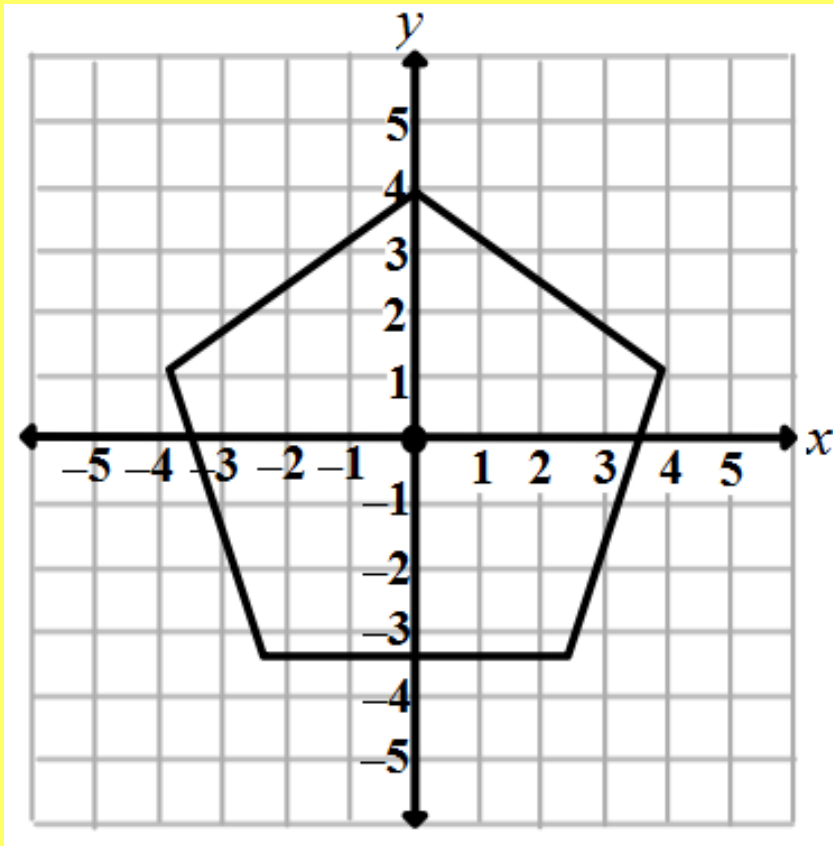


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~~B.~~ a reflection across the x -axis

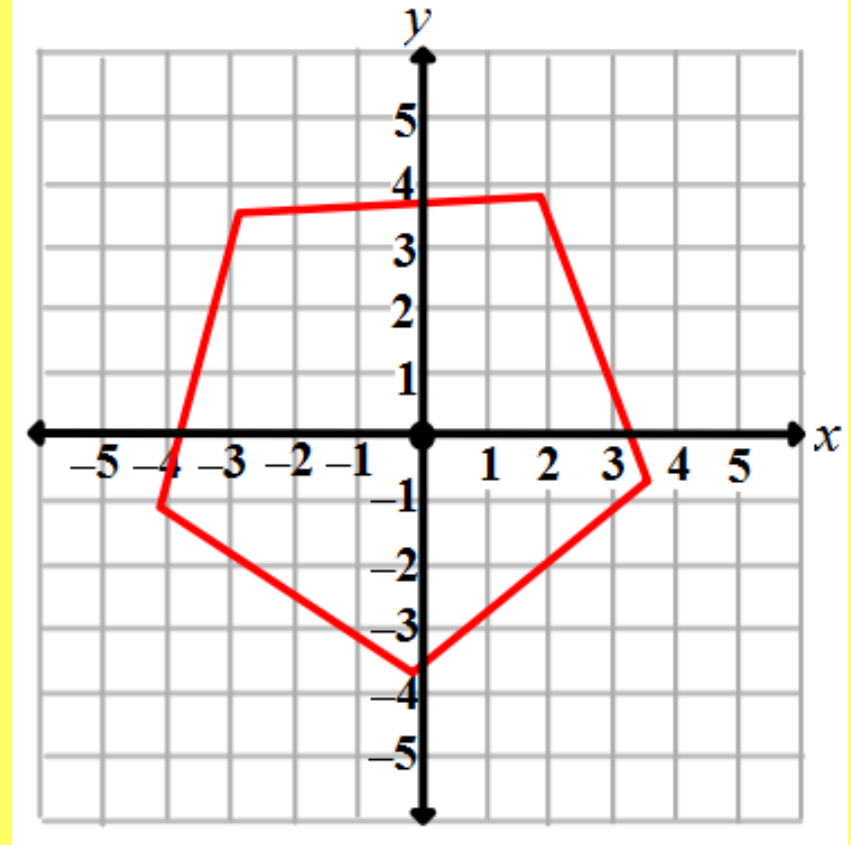
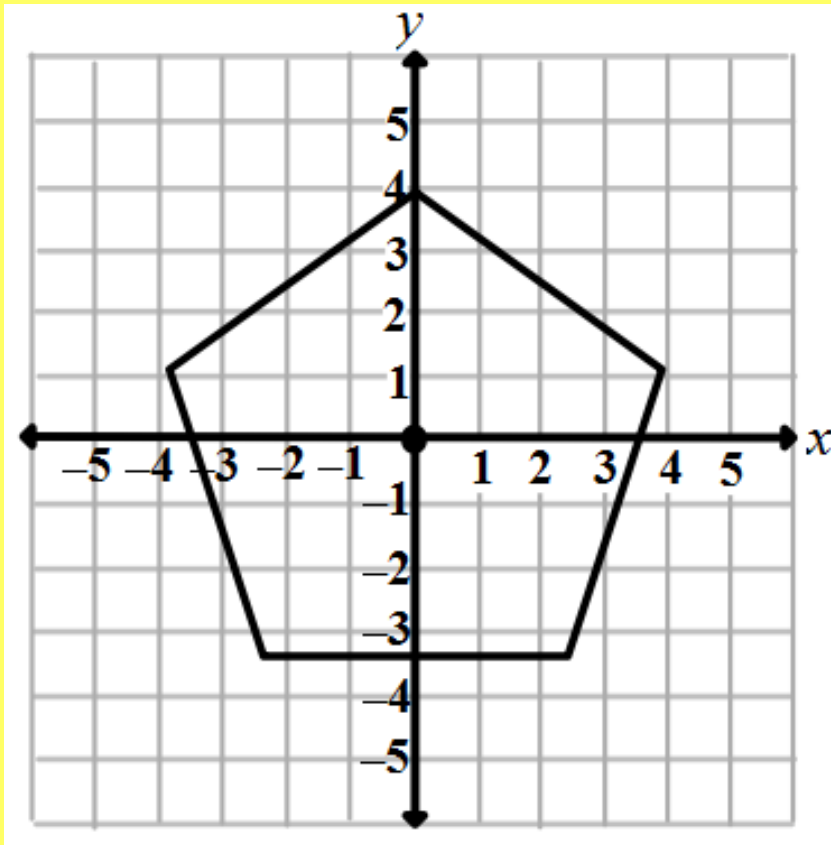


#1

Unit 5

A regular pentagon is centered about the origin and has a vertex at $(0, 4)$. Which transformation maps the pentagon to itself?

~~B.~~ a clockwise rotation of 100° about the origin



#1

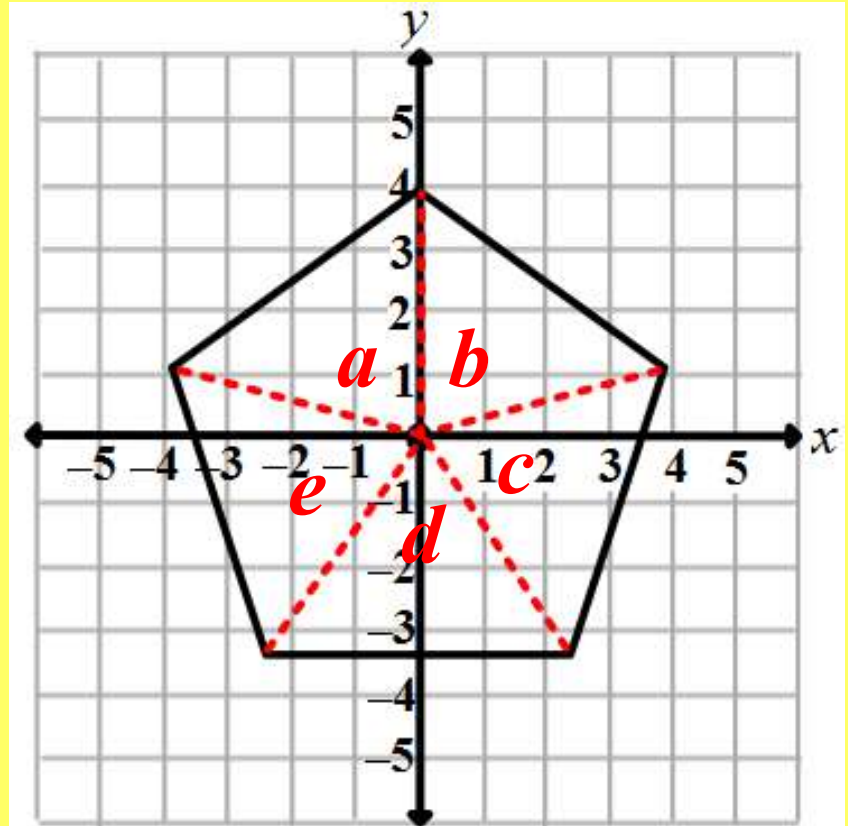
Unit 5

A regular pentagon is centered about the origin and has a vertex at $(0, 4)$. Which transformation maps the pentagon to itself?

D. a clockwise rotation of 144° about the origin

Note: The pentagon is divided into 5 equal angles with a central point of rotation at $(0,0)$.

The sum of all 5 angles is 360° , representing one full rotation.



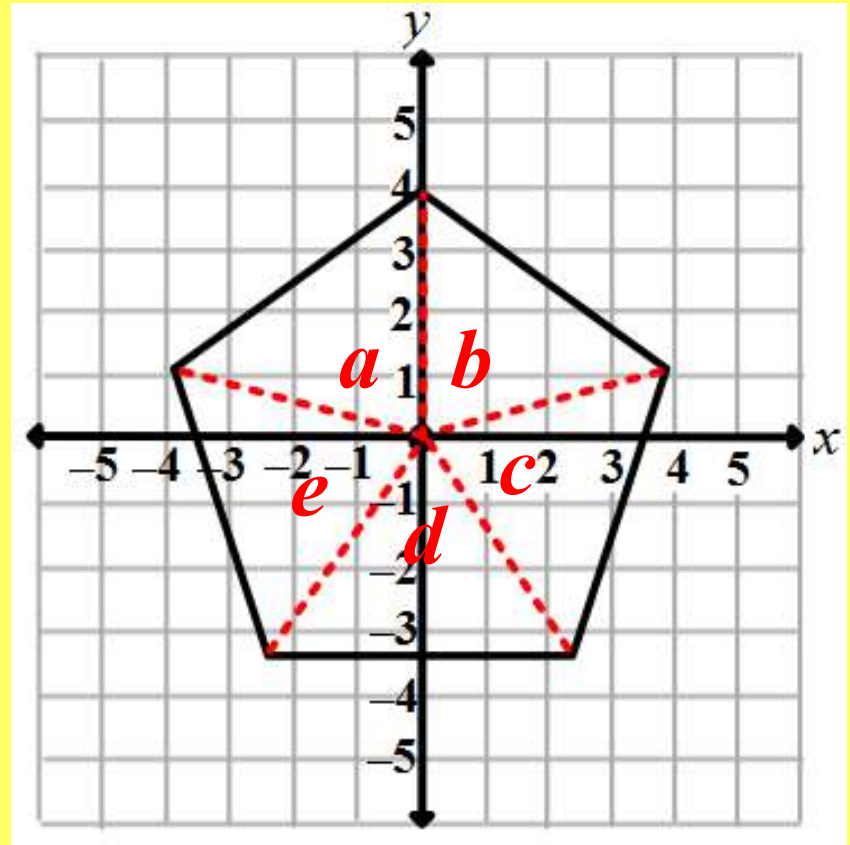
#1

Unit 5

A regular pentagon is centered about the origin and has a vertex at (0, 4). Which transformation maps the pentagon to itself?

D. a clockwise rotation of 144° about the origin

Since each angle has the same measurement, then the value of each angle is $360^\circ \div 5 = 72^\circ$



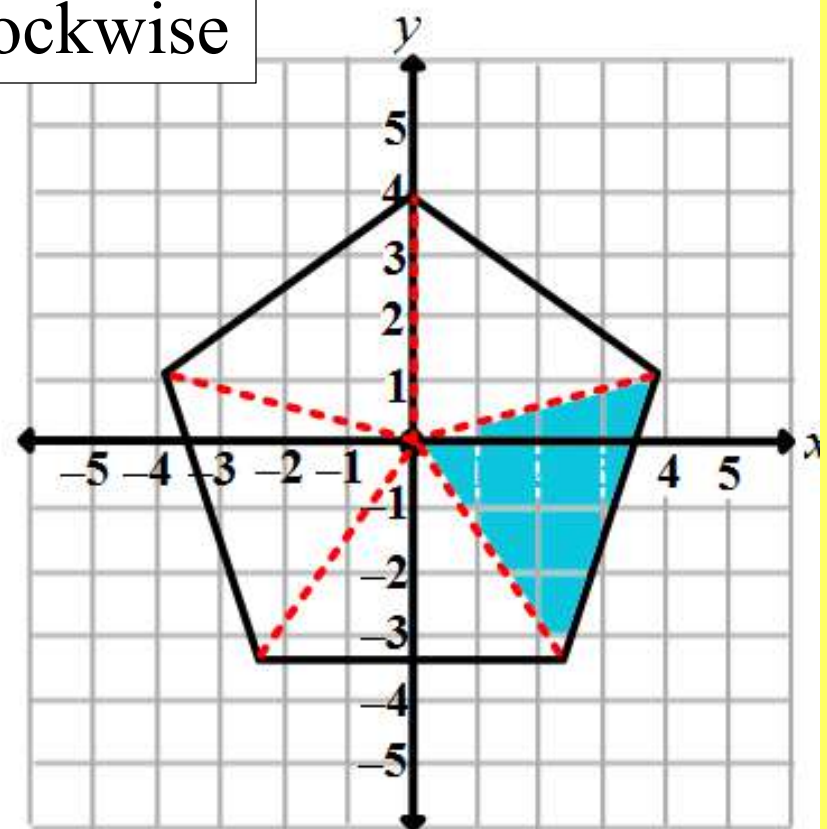
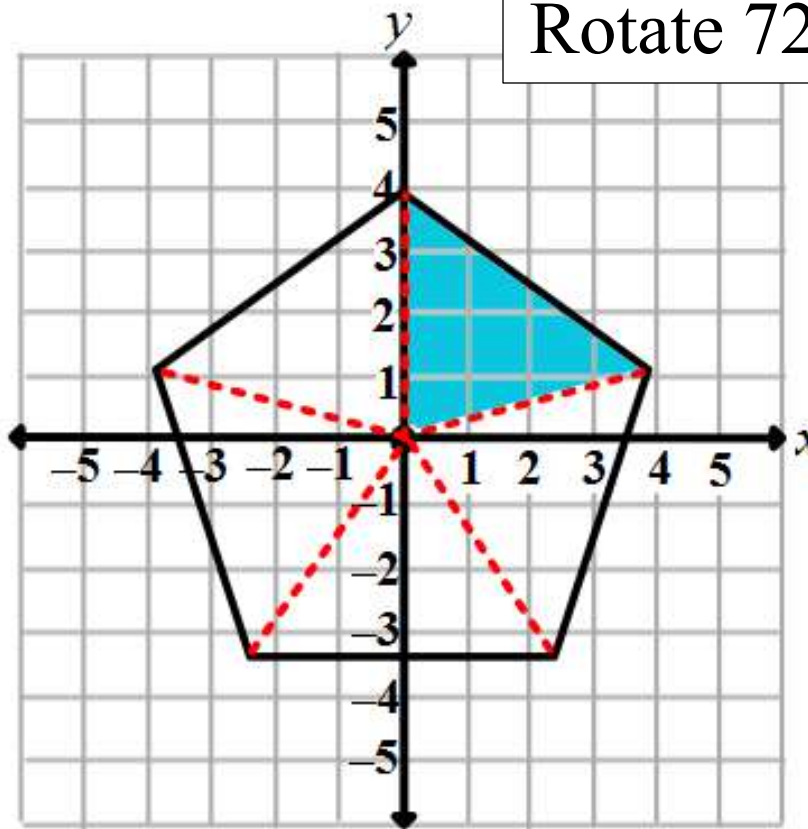
#1

Unit 5

A regular pentagon is centered about the origin and has a vertex at $(0, 4)$. Which transformation maps the pentagon to itself?

D. a clockwise rotation of 144° about the origin

Rotate 72° clockwise



#1

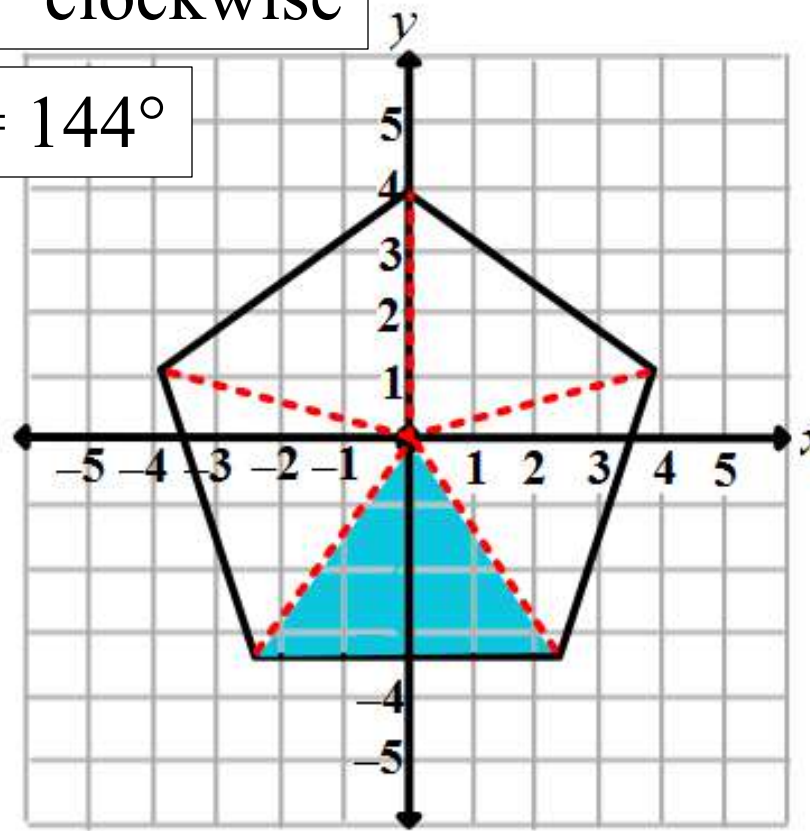
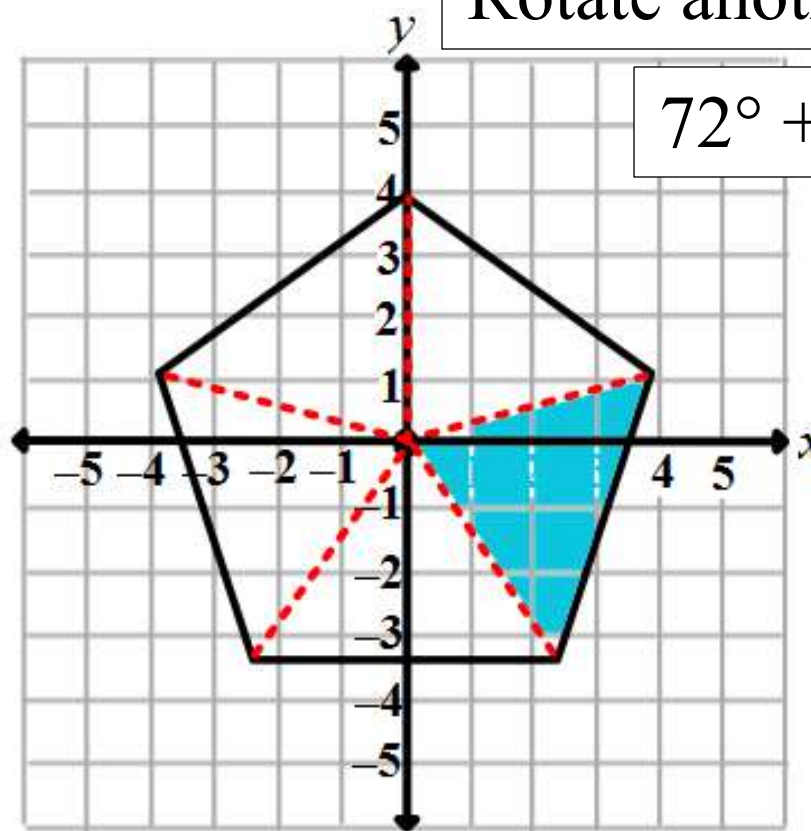
Unit 5

A regular pentagon is centered about the origin and has a vertex at $(0, 4)$. Which transformation maps the pentagon to itself?

D. a clockwise rotation of 144° about the origin

Rotate another 72° clockwise

$$72^\circ + 72^\circ = 144^\circ$$



#2

Unit 5

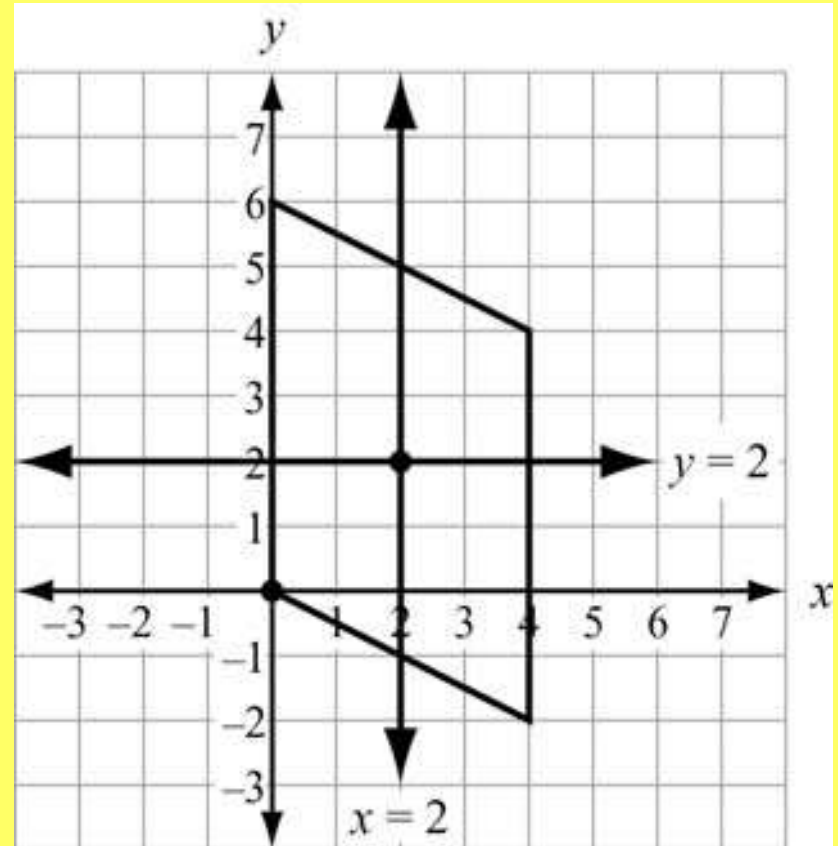
A parallelogram has vertices at $(0, 0)$, $(0, 6)$, $(4, 4)$, and $(4, -2)$. Which transformation maps the parallelogram to itself?

a reflection across the
line $x = 2$

a reflection across the
line $y = 2$

a rotation of 180° about
the point $(2, 2)$

a rotation of 180° about
the point $(0, 0)$



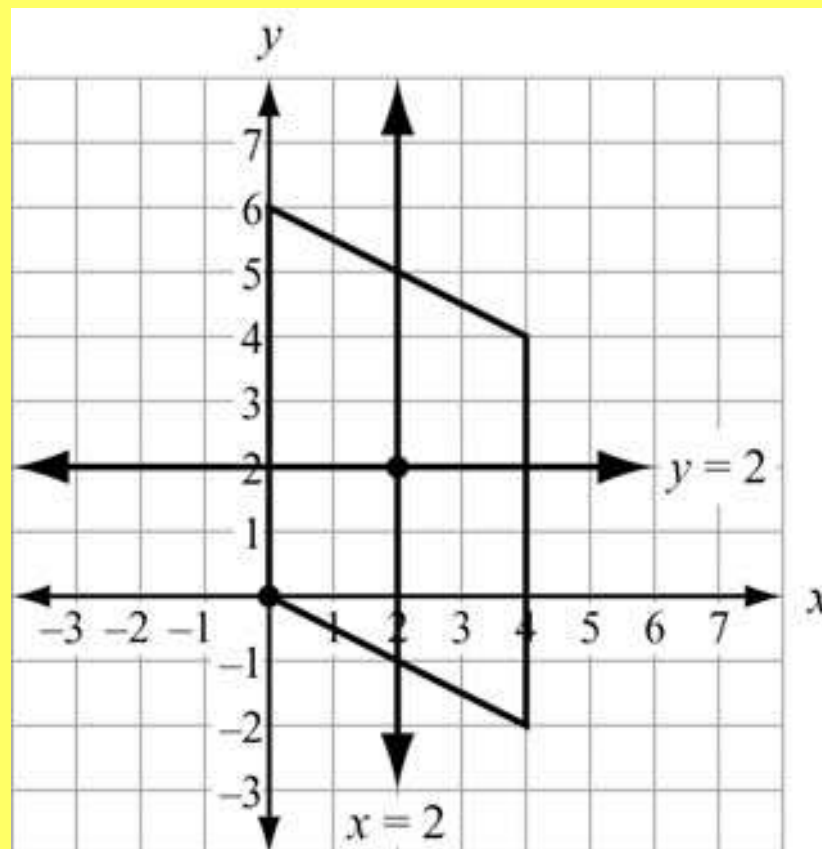
#2

Unit 5

A parallelogram has vertices at $(0, 0)$, $(0, 6)$, $(4, 4)$, and $(4, -2)$. Which transformation maps the parallelogram to itself?

A rotation of 180° about the point $(2, 2)$

Starting Points	Rotation 180° $(-x, -y)$	Add $2(2, 2)$ $= (4, 4)$
$(0, 0)$	$(0, 0)$	$(4, 4)$
$(0, 6)$	$(0, -6)$	$(4, -2)$
$(4, 4)$	$(-4, -4)$	$(0, 0)$
$(4, -2)$	$(-4, 2)$	$(0, 6)$



#3

Which sequence of transformations maps $\triangle ABC$ to $\triangle RST$?

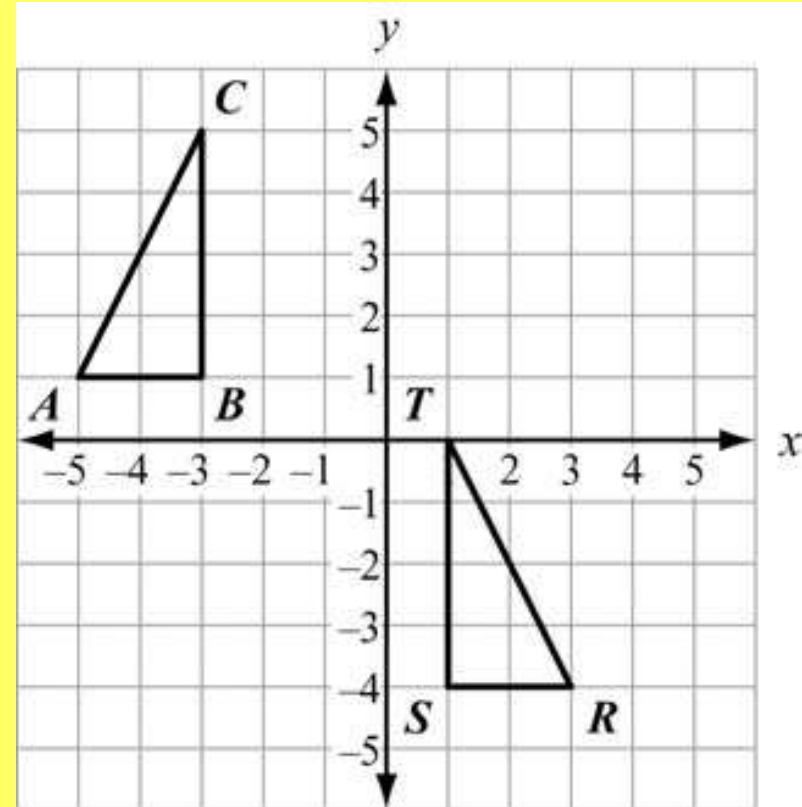
Unit 5

Reflect $\triangle ABC$ across the line $x = -1$. Then translate the result 1 unit down.

Reflect $\triangle ABC$ across the line $x = -1$. Then translate the result 5 units down.

Translate $\triangle ABC$ 6 units to the right. Then rotate the result 90° clockwise about the point $(1, 1)$.

Translate $\triangle ABC$ 6 units to the right. Then rotate the result 90° counterclockwise about the point $(1, 1)$.



#3

Which sequence of transformations maps $\triangle ABC$ to $\triangle RST$?

Unit 5

Reflect $\triangle ABC$ across the line $x = -1$.

Then translate the result 5 units down.

Starting
Points

$(-5, 1)$

$(-3, 1)$

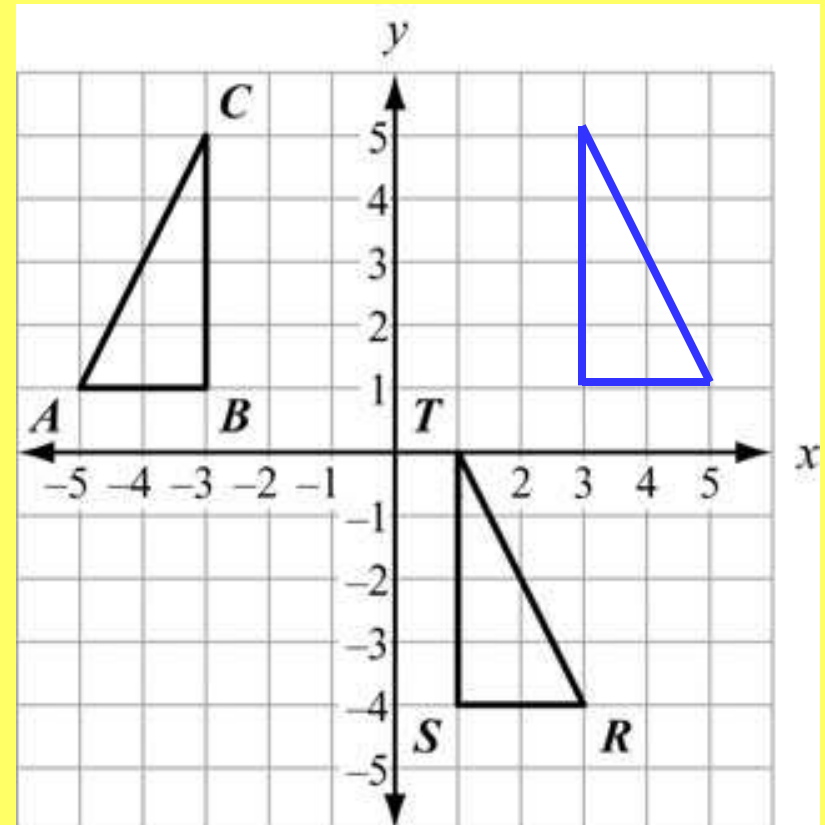
$(-3, 5)$

Reflection
on y -axis
 $(-x, y)$

$(5, 1)$

$(3, 1)$

$(3, 5)$



#3

Which sequence of transformations maps $\triangle ABC$ to $\triangle RST$?

Unit 5

Reflect $\triangle ABC$ across the line $x = -1$.

Then translate the result 5 units down.

Reflection
on y-axis

$(-x, y)$

$(5, 1)$

$(3, 1)$

$(3, 5)$

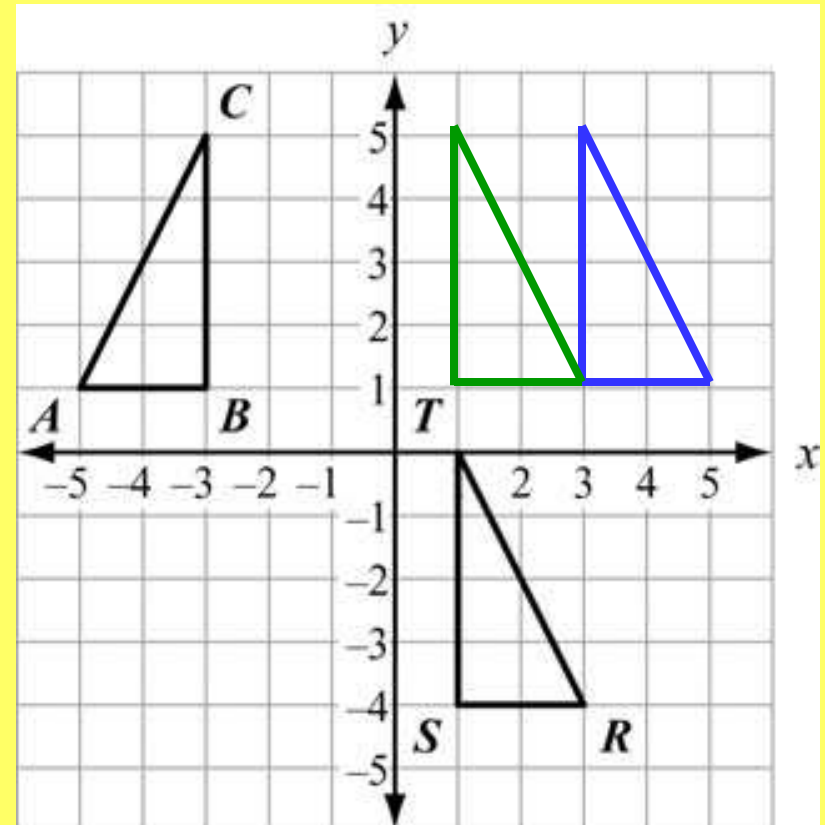
Add $2(-1) = -2$
to each

x-coordinate

$(3, 1)$

$(1, 1)$

$(1, 5)$



#3

Which sequence of transformations maps $\triangle ABC$ to $\triangle RST$?

Unit 5

Reflect $\triangle ABC$ across the line $x = -1$.

Then translate the result 5 units down.

Add $2(-1) = -2$
to each
x-coordinate

$(3,1)$

$(1,1)$

$(1,5)$

Shift
down
5 units

$(3,-4)$

$(1,-4)$

$(1,0)$

