

Lesson 3 Practice Problems

1. Complete the table and determine the rule for this transformation.

input	output
(2, -3)	(-3, 2)
(4, 5)	(5, 4)
(<u> </u> , 4)	(4, 0)
(1, 6)	
	(-1, -2)
(x, y)	

2. Write a rule that describes this transformation.

original figure	image
(5, 1)	(2, -1)
(-3, 4)	(-6, -4)
(1, -2)	(-2, 2)
(-1, -4)	(-4, 4)

3. Select **all** the transformations that produce congruent images.

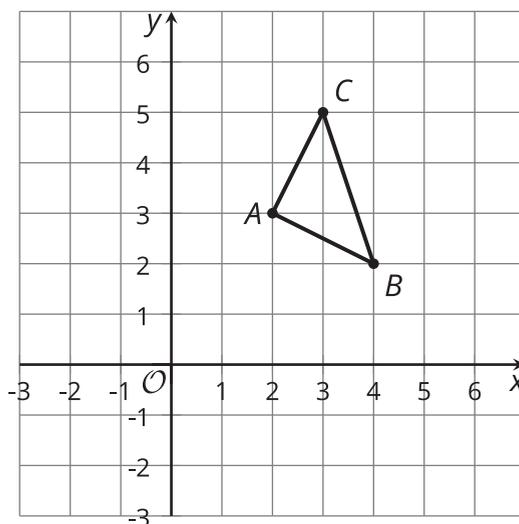
- A. dilation
- B. horizontal stretch
- C. reflection
- D. rotation
- E. translation

4. Here are some transformation rules. For each transformation, first predict what the image of triangle ABC will look like. Then compute the coordinates of the image and draw it.

a. $(x, y) \rightarrow (x - 4, y - 1)$

b. $(x, y) \rightarrow (y, x)$

c. $(x, y) \rightarrow (1.5x, 1.5y)$



(From Unit 6, Lesson 2.)

5. A cylinder has radius 3 inches and height 5 inches. A cone has the same radius and height.

a. Find the volume of the cylinder.

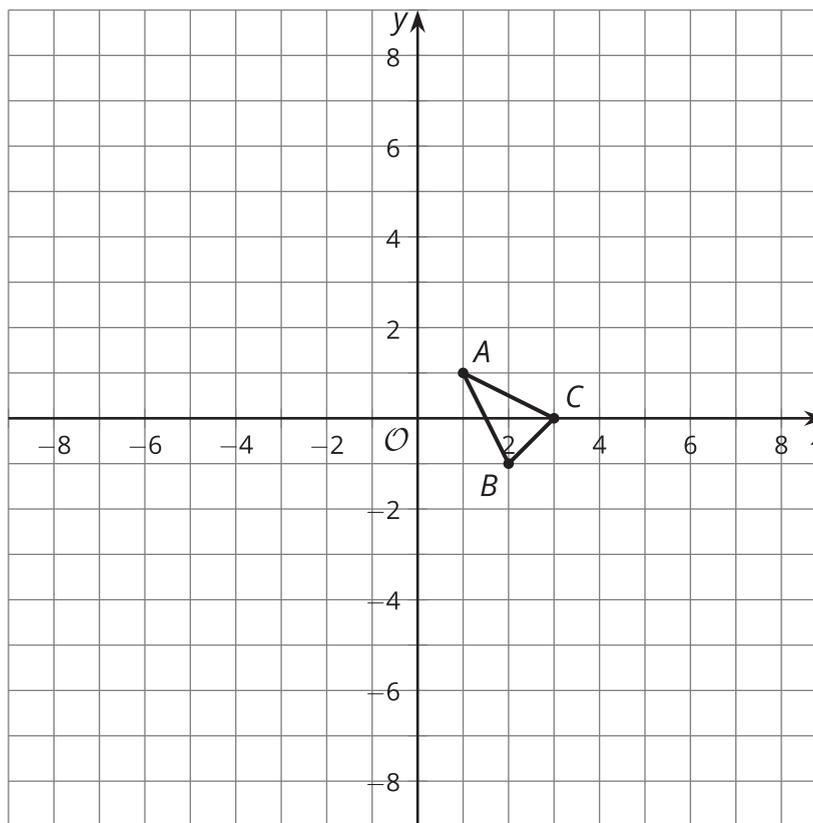
b. Find the volume of the cone.

c. What fraction of the cylinder's volume is the cone's volume?

(From Unit 5, Lesson 13.)

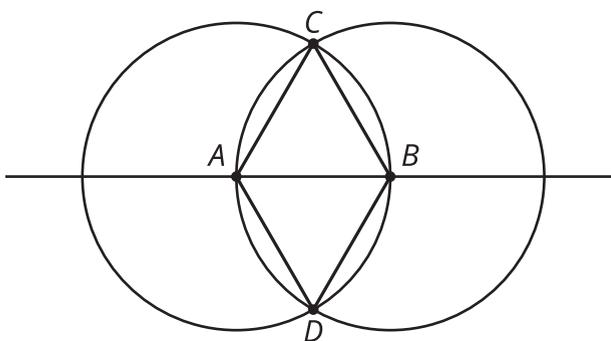
6. Reflect triangle ABC over the line $x = -2$. Call this new triangle $A'B'C'$. Then reflect triangle $A'B'C'$ over the line $x = 0$. Call the resulting triangle $A''B''C''$.

Describe a single transformation that takes ABC to $A''B''C''$.



(From Unit 6, Lesson 1.)

7. In the construction, A is the center of one circle, and B is the center of the other.



Explain why segments AC , BC , AD , BD , and AB have the same length.

(From Unit 1, Lesson 2.)