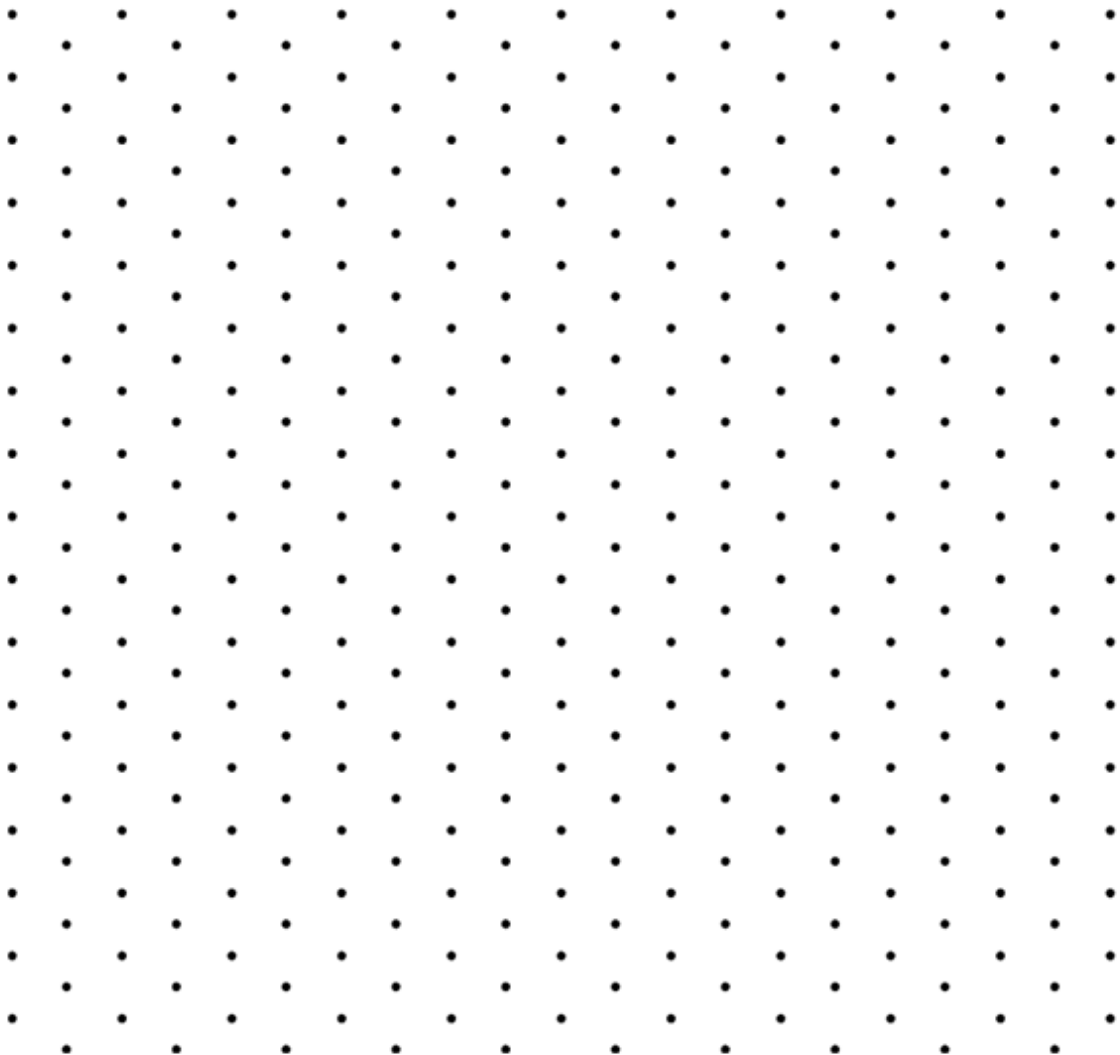
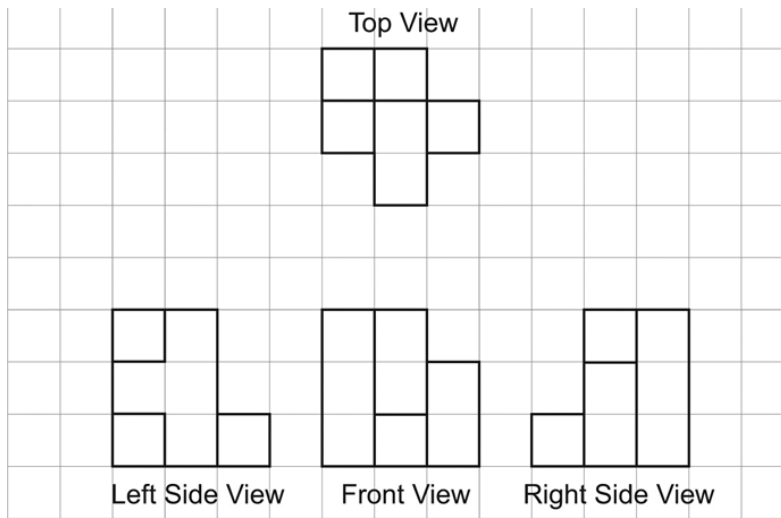
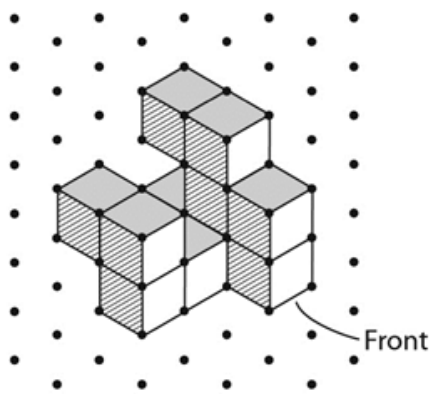




Warm Up Grade 8
April 28, 2016



1. a)





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*1. Each shape has area 8 cm^2 . Under a transformation, area is conserved. This means that all the shapes in the tessellation have the same area.

3. Answers may vary.

- i) a) Shape A is translated to the right to get Shape C.
 b) Shape A is reflected in the side shared by Shapes A and B to get Shape B.
 c) Shape A is rotated 180° about the vertex shared by Shapes A and D to get Shape D.
-

- ii) a) Shape A is translated to the right to get Shape B.
 b) Shape A is reflected in the side shared by Shapes A and C to get Shape C. 
 c) Shape A is rotated 180° about the midpoint of the side shared by Shapes A and B to get Shape B. 
-

- iii) a) Shape A is translated up to get Shape C.
 b) Shape A is reflected in the side shared by Shapes A and H to get Shape H.
 c) Shape A is rotated 90° clockwise about the vertex shared by Shapes A and B to get Shape E.

shared by shapes A and E to get Shape E.

4. Answers may vary.

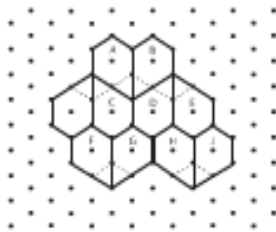
- i)
 - a) Shape A is translated to the right and down to get Shape E.
 - b) Shape A is reflected in the side shared by Shapes A and D to get Shape D.
 - c) Shape A is rotated 60° counterclockwise about the vertex shared by Shapes A and E to get Shape D.
- ii)
 - a) Shape A is translated down to get Shape D.
 - b) Shape A is reflected in the side shared by Shapes A and D to get Shape D.
 - c) Shape A is rotated 180° about the vertex shared by Shapes A and E to get Shape E.

5. Answers may vary.

Label the shape to the right of the shaded shape with the letter A, then continue to label with letters, moving in a clockwise direction.

- a) The shaded shape is reflected in the side shared by the shaded shape and Shape A to get Shape A. Shape A is rotated 90° clockwise about the vertex shared by Shapes A and E to get Shape B. Shape B is translated 1 unit right to get Shape C. Shape C is rotated 90° clockwise about the vertex shared by Shapes B and D to get Shape D. Shape D is translated 1 unit left to get Shape E. Shape E is reflected in the side shared by Shapes E and F to get Shape F. Shape F is translated 1 unit left to get Shape G.
- b) The shaded shape is reflected in the side shared by the shaded shape and Shape A to get Shape A. Shape A is rotated 180° about the vertex shared by Shapes A and B to get Shape B. Shape B is reflected in the side shared by Shapes B and C to get Shape C. Shape C is rotated 180° about the vertex shared by Shapes C and D to get Shape D. Shape D is reflected in the side shared by Shapes D and E to get Shape E.
- c) The shaded shape is rotated 90° clockwise about the vertex shared by all shapes to get Shape A. Shape A is rotated 90° clockwise about the same vertex to get Shape B. Shape B is rotated 90° clockwise about the same vertex to get Shape C.

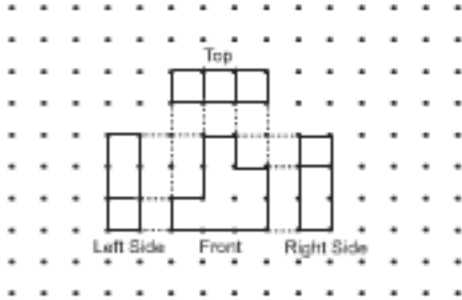
6.



- a) The shaded shape is translated right to get Shape D. Shape A is translated left and down to get Shape F; and right and down to get Shape H. Shape B is translated left and down to get Shape G; and right and down to get Shape J. Shape C is translated right to get Shape E. Shape D is translated left to get the shaded shape. Shape E is translated left to get Shape C. Shape F is translated right to get Shape H; and right and up to get Shape A. Shape G is translated right and up to get Shape B; and right to get Shape J. Shape H is translated left to get Shape F; and left and up to get Shape A. Shape J is translated left to get Shape G; and left and up to get Shape B.
- b) Shapes A and B, the shaded shape and Shape C, Shapes C and D, and Shapes D and E are reflected in the side that is shared by each pair of shapes. The shaded shape and Shape E are reflected in the side shared by Shapes C and D. Shapes F and G, Shapes G and H, and Shapes H and J are reflected in the side that is shared by each pair of shapes. Shapes F and J are reflected in the side shared by Shapes G and H.
- c) Yes, under a translation or reflection, the area of a shape is conserved. The shape and its image are congruent, so they have the same area.

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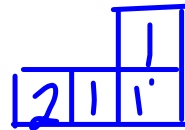
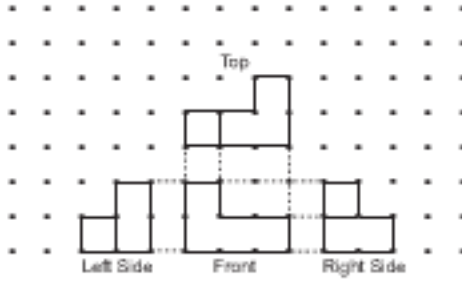
1. a)



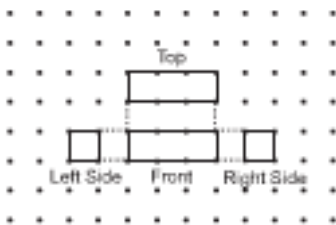
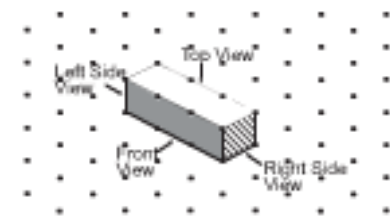
Mat Plan



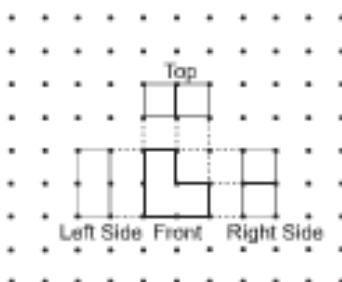
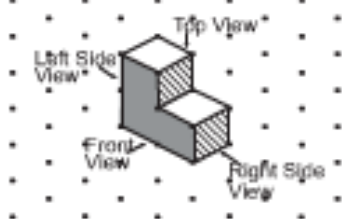
b)



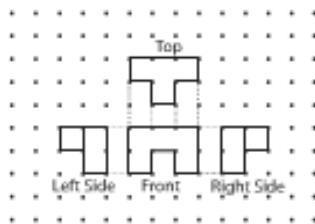
2. a)



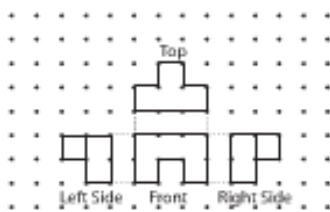
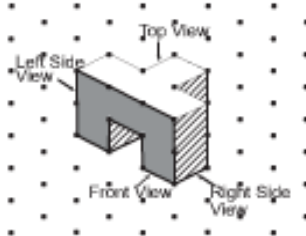
b)



3. a) Predictions may vary.

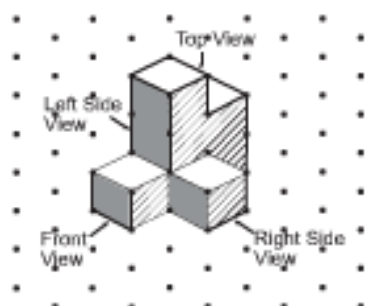


b)



-
4. a) The object was rotated horizontally 90° clockwise, or 270° counterclockwise.
 b) The object was rotated horizontally 90° clockwise, or 90° counterclockwise.
 c) The object was rotated horizontally 180° .

5.

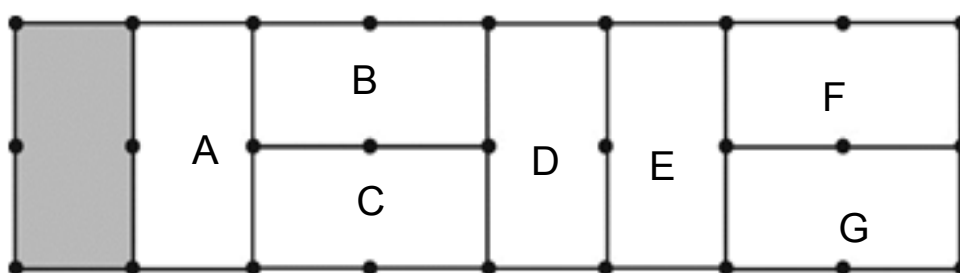


I can rotate the object to compare the views of the object with the given views.

6. I eliminated Object B because it only has a height of 2 linking cubes. The top view of Objects A and C matched, so I then looked at the right side views. The right side view of Object A did not match as the change in depth was not correct. So, I knew Object C had the given views.

How are the shapes related in the tessellation?

a)



Solutions

- a) For example, label the rectangles to the right of the shaded rectangle from A to G.
 The shaded rectangle is translated 1 unit right to get Rectangle A. Rectangle A is rotated 90° counterclockwise about the upper right vertex of Rectangle A to get Rectangle B. Rectangle B is reflected in the side shared by rectangles B and C to get Rectangle C. Rectangle C is rotated 90° clockwise about the lower right vertex of Rectangle C to get Rectangle D. Rectangle D is translated 1 unit right to get Rectangle E. Use similar transformations to complete the pattern.

Class/Homework

Test Tuesday, May 3

pg. 484 # 1 to 9