UNIT 8 TESSELLATIONS

Rotation — Vertical axis of rotation

object can be rotated

clockwise (c)

counterclockwise (cc)

Same

90 c = 270 cc

180 c = 180 cc

270 c = 90 cc

Same position

360 c or 360 cc → doesn't change

Horizontal axis of rotation

c → towards you

cc → away from you.

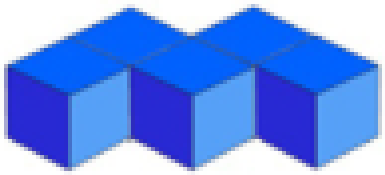
Regular tessellation

- tessellation made up of regular polygons
- sum of the angles where vertices meet at ONE POINT is 360°

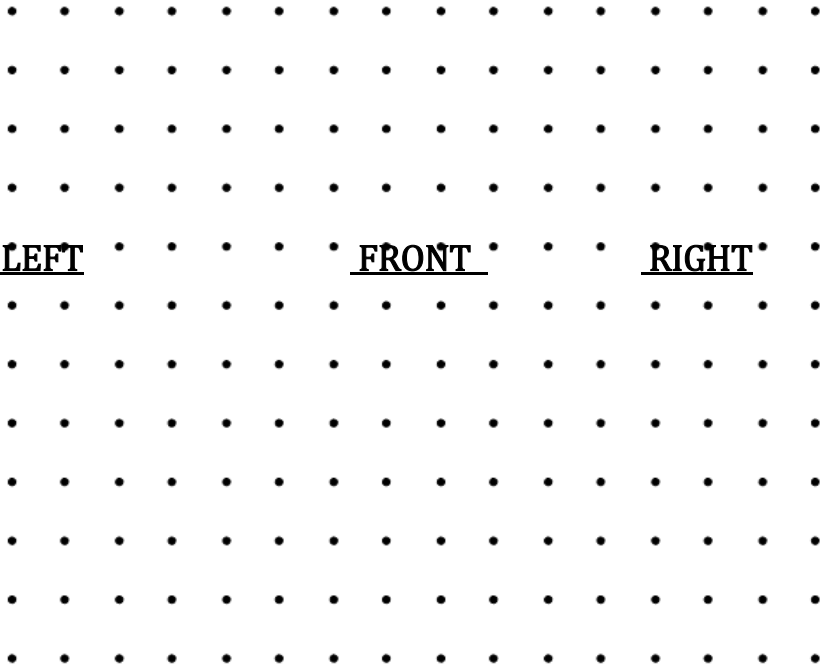
* No overlap between shapes

* No gaps between shapes

Make the top, left, front and right views of this object.



TOP



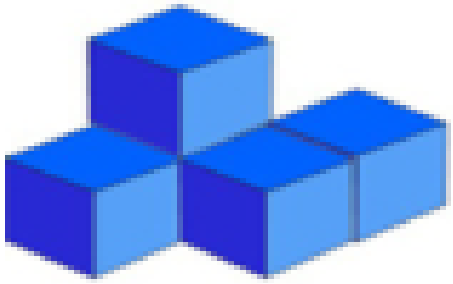
LEFT FRONT RIGHT

Regular polygon	Size of interior angles
Equilateral triangle (3)	60°
Square (4)	90°
Pentagon (5)	108°
Hexagon (6)	120°
Octagon (8)	135°
Dodecagon (12)	150°

For tessellations.

Make the top, left, front and

right views of this object.

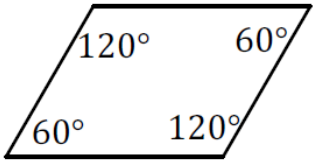


TOP

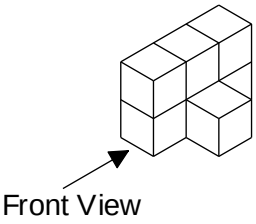
LEFT FRONT RIGHT

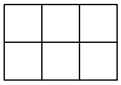
1. If this polygon is tessellated, what is the sum of the angles where the vertices meet?

   A. 90°
   B. 180°
   C. 270°
   D. 360°

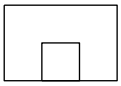


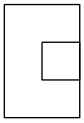
2. Which is the **right side view** of the object?



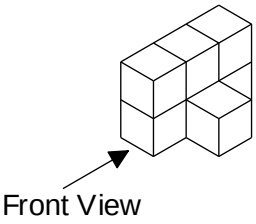
A. 

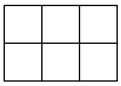
B. 

C. 

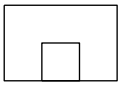
D. 

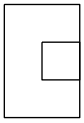
3. Which is the **right side view** of the object?



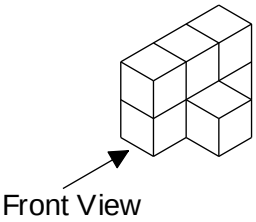
A. 

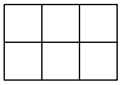
B. 

C. 

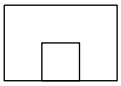
D. 

4. Which is the **right side view** of the object?



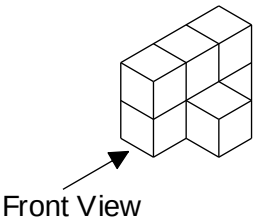
A. 

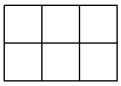
B. 

C. 

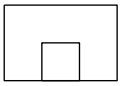
D. 

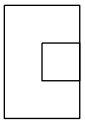
5. Which is the **left side view** of the object?



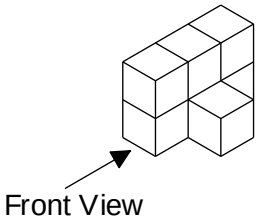
A. 

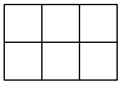
B. 

C. 

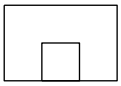
D. 

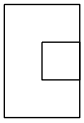
6. Which is the **right side view** of the object?



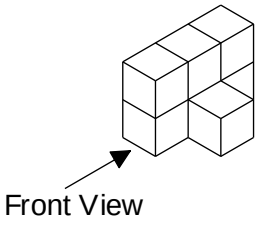
A. 

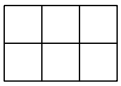
B. 

C. 

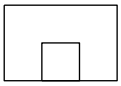
D. 

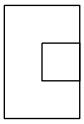
7. Which is the **right side view** of the object?



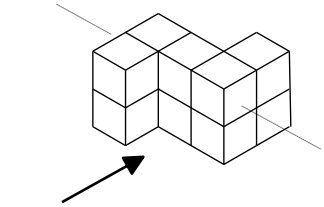
A. 

B. 

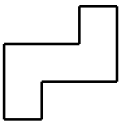
C. 

D. 

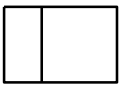
8. What is the **top view** after this object is rotated vertically 180° about the axis shown?

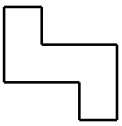


Front View

A. 

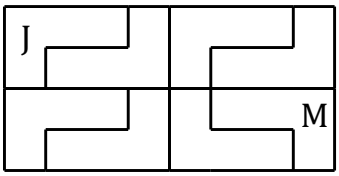
B. 

C. 

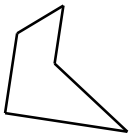
D. 

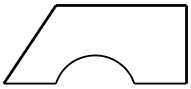
9. Under what combination of transformations will Shape M be the image of Shape J?

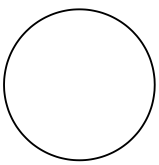
A. rotation, translation
B. translation, reflection
C. translation, rotation
D. reflection, reflection



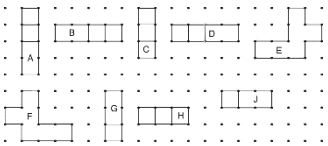
10. Which object will tessellate?

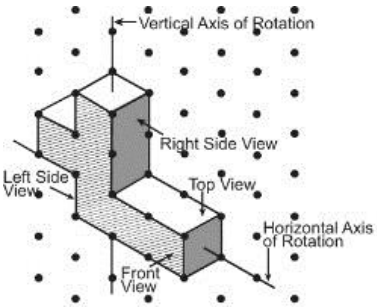
C. 

A. 

D. 

11. Match the front, right, left and top views to the lettered views below.

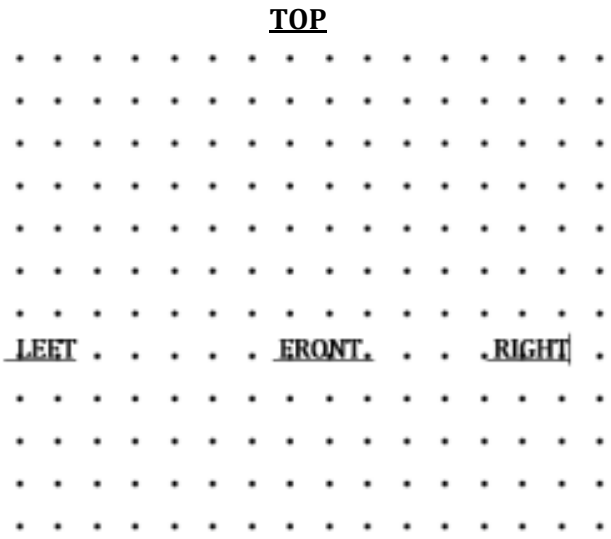


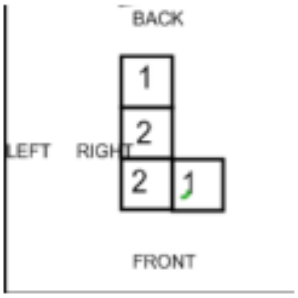


TOP=_____

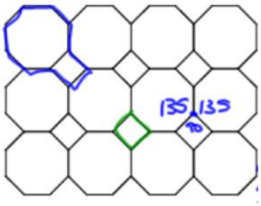
Left = _____ Front = _____ Right = _____

12. Create the top, left, front and right views from the mat given.

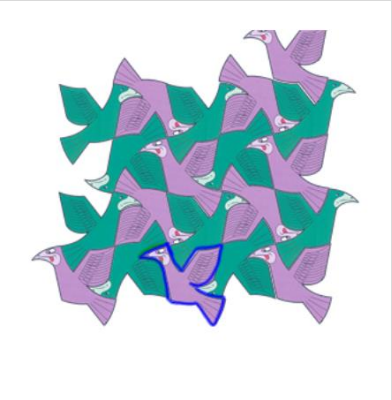




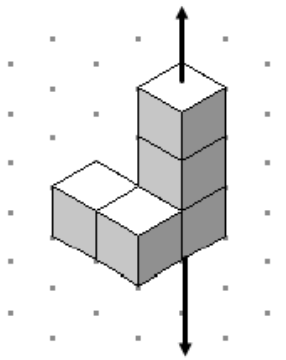
For **regular tessellations**, remember,
Regular Square,
Regular rectangles,
Regular triangles and
Regular hexagons
WILL tessellate.



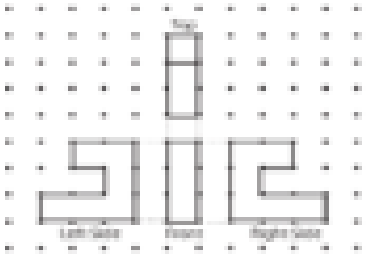
Tessellation (not regular)



Rotate the figure below 180 degrees clockwise around the axis of rotation. Draw the front, side, top views of the rotated shape on the dotted paper.



Draw the 3-D form on isometric paper.



Things I need to spend more time STUDYING

(i.e. things I have trouble with)…

- _____
- _____
- _____
- _____
- _____

Other things to review…