

<http://illuminations.nctm.org/ActivityDetail.aspx?ID=125>



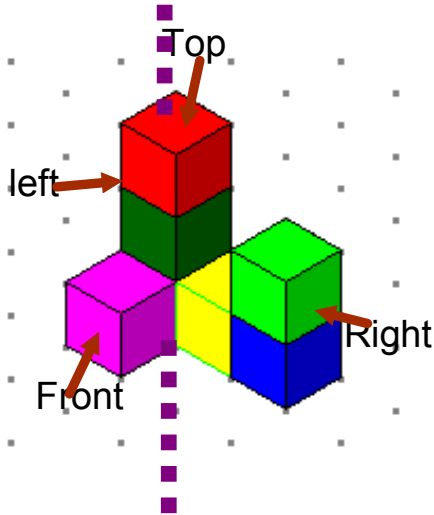
# Warm Up

Grade 8

April 21, 2016

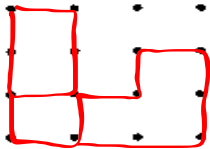


- Draw all views of front, left, top and right.
- Redraw the views after we rotate horizontally clockwise 90°.



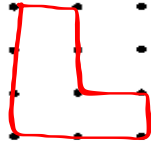
Square Dot Paper Grid Master

front

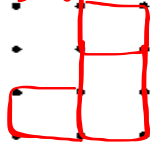


TOP / Mat

Left



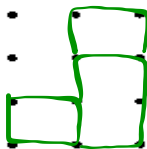
Right



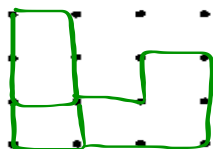
TOP



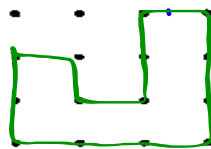
New front



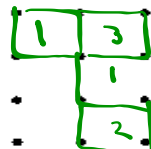
New left



New Right

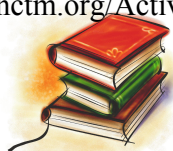


New top



b)

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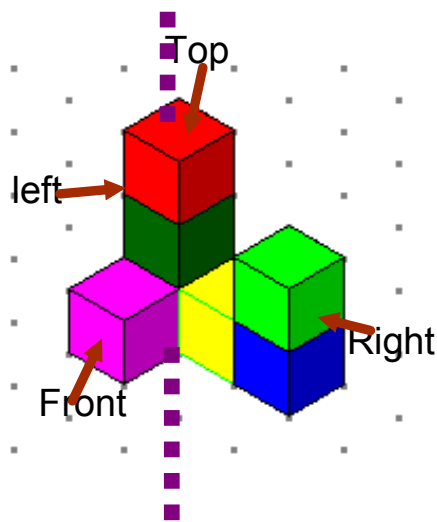
# Warm Up

Grade 8

April 21, 2016



- Draw all views of front, left, top and right.
- Redraw the views after we rotate horizontally clockwise 90°.



Square Dot Paper Grid Master

a)

Top / Mat

3	1	2
1		

Left      Front      Right

b)

New Top / Mat

1	3
	1
	2

New Left      New front      New Right

### Discuss the Ideas

1. Yes, when an object is rotated vertically  $90^\circ$  toward you, it will end up in the same position as when the same object is rotated vertically  $270^\circ$  away from you. So, the views of the object after each rotation will be the same.
2. I think the object must be a cube because no matter how I rotate a cube, its views are always the same.
3. 6)
  - a) The object was rotated horizontally  $90^\circ$  counterclockwise, or  $270^\circ$  clockwise.
  - b) The object was rotated horizontally  $180^\circ$ .
  - c) The object was rotated horizontally  $90^\circ$  clockwise, or  $270^\circ$  counterclockwise.

4. a) Front view: B; Top view: E; Right side view: A;  
Left side view: A
- b) Front view: G; Top view: C; Right side view: D;  
Left side view: F
5. The object is symmetrical.

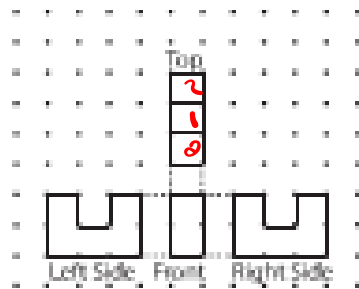
6.



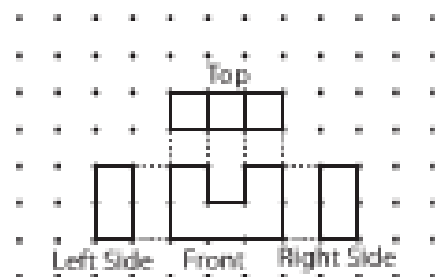
Front View

7. a) Predictions may vary.

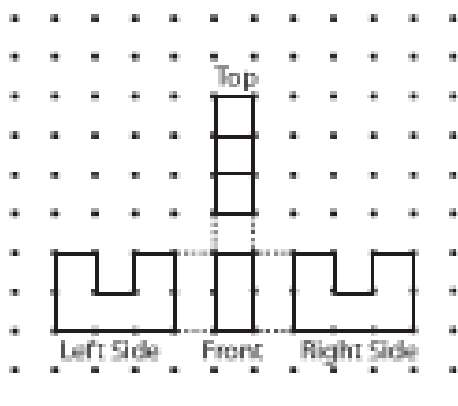
b) i)



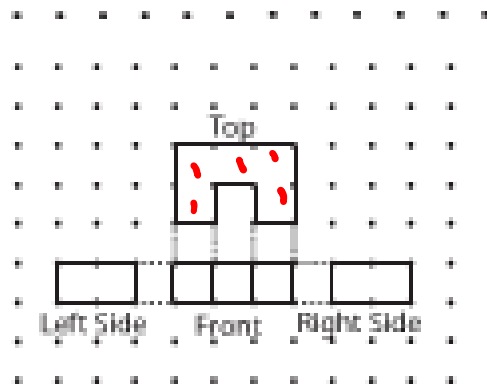
ii)



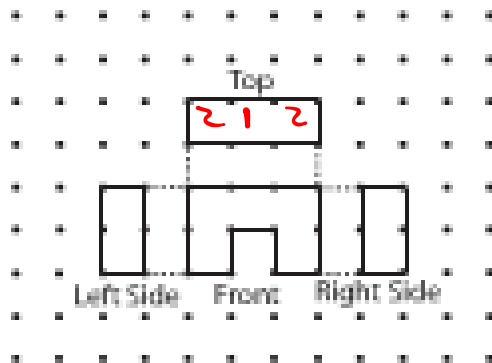
iii)



8. a)

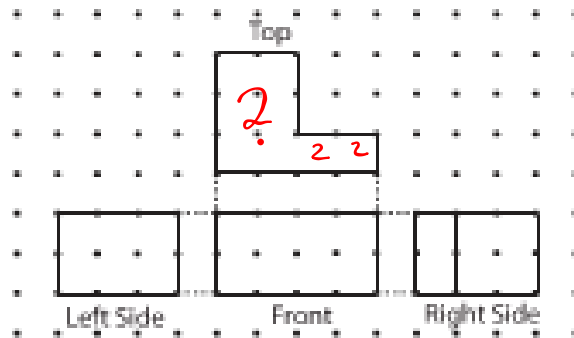


b)

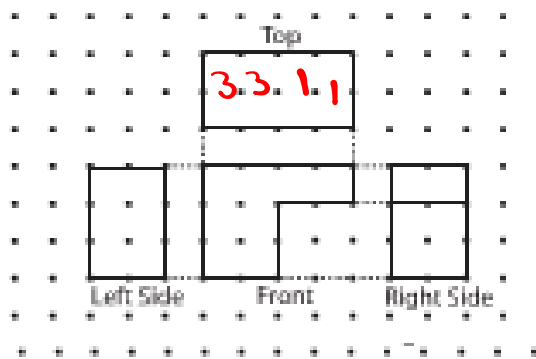


9. a) Predictions may vary.

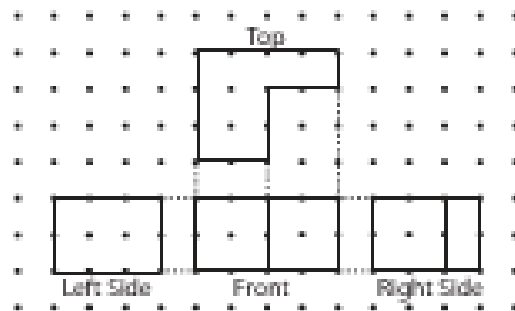
b) i)



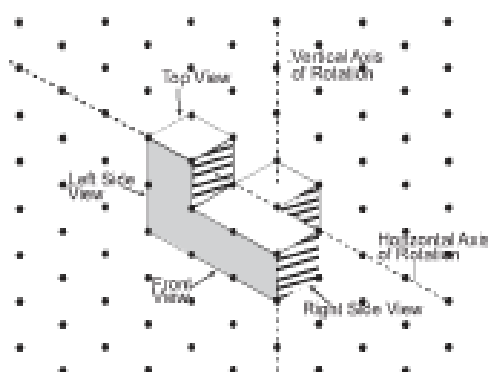
ii)



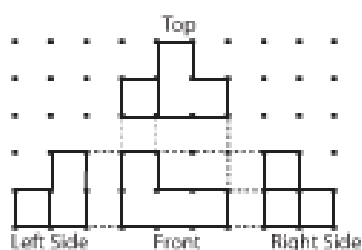
iii)



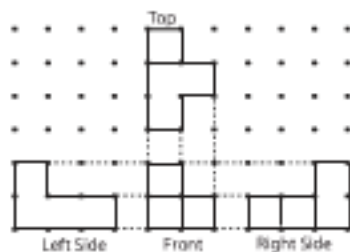
10. Answers will vary depending on object built.



a)

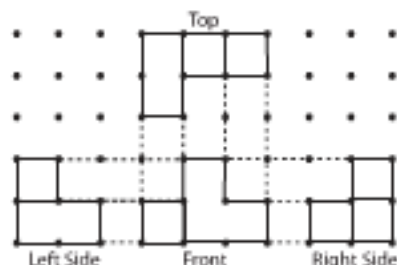


b) I chose a horizontal rotation of  $90^\circ$  clockwise.



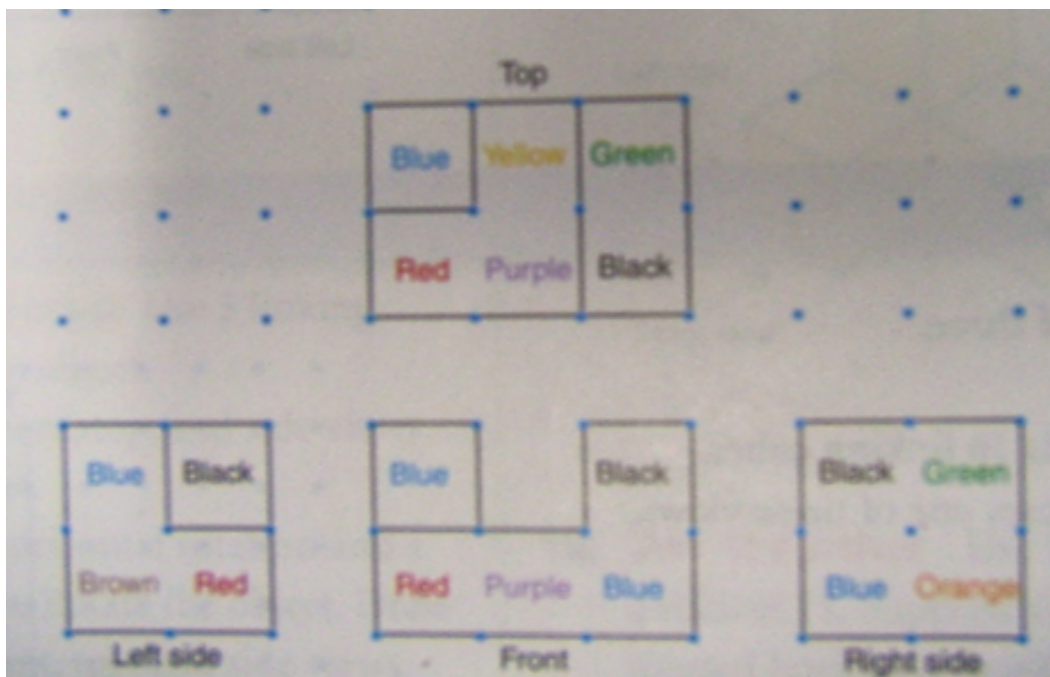
c) A horizontal rotation of  $270^\circ$  counterclockwise

d) I chose a vertical rotation of  $90^\circ$  toward me.



e) A vertical rotation of  $270^\circ$  away from me





Left Side - Shows 2 cubes high(Brown, Blue) & 2 cubed deep(Red Brown). The black cube is behind or in front of the other cubes.

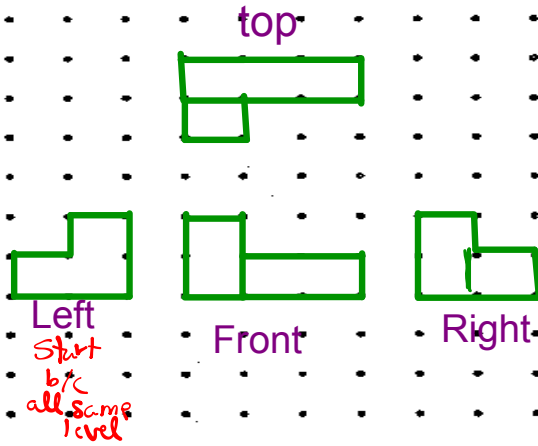
Front - shows that object is 3 cubes long(Red, Purple, Blue) and 2 cubes high (Blue, black), all on same level. The other blue over the red tells us it is either in front or behind the red BUT from the left we know it is connected to the brown so it must be BEHIND. That means the Black is in front.

Top - shows red, yellow and purple cube on same level and Blue, green& black on a different level.

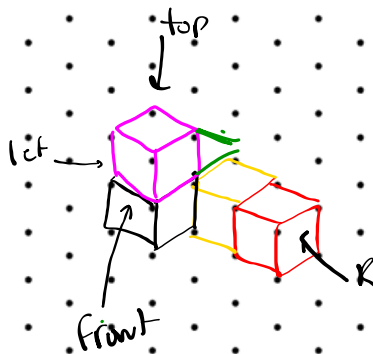
Right - Shows black Green, Blue and Orange on the same level which means Orange is bottom right cube

Square Dot Paper Grid Master

Make this object



Draw 3D Object on ISOMETRIC Dot PAPER



# Class/Homework

Page 450 - 451

#4 , #5, #6, #7, #8

Draw 5,6,7,8 on isometric dot paper

4. a) Front view: B; Top view: E; Right side view: A;  
Left side view: A
- b) Front view: G; Top view: C; Right side view: D;  
Left side view: F
5. The object is symmetrical.

6.

