



Light

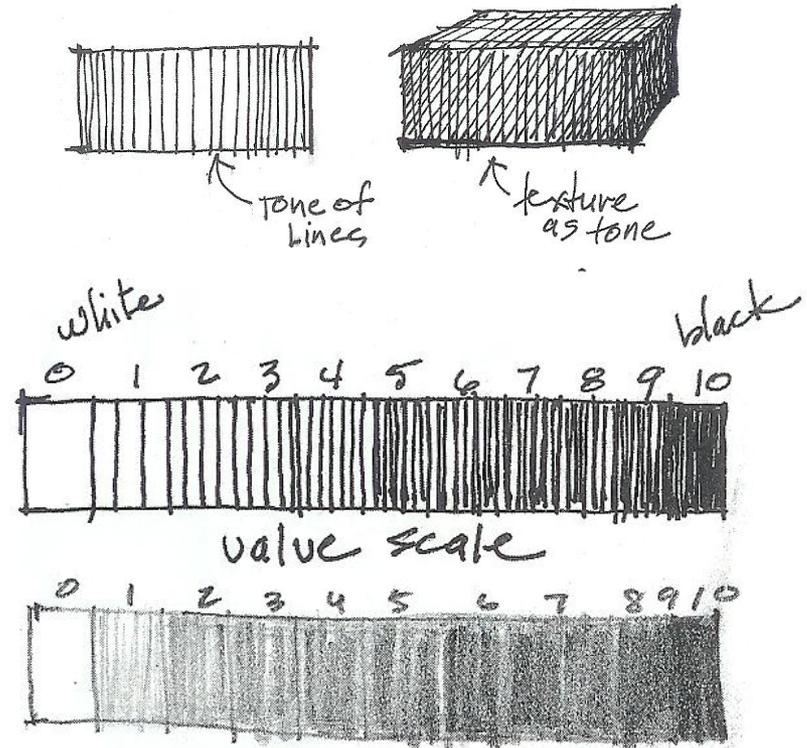


Tone, value, or shade and shadow

# Light

- ▶ Determine how our drawings read and make a visual impact
- ▶ Tone, value, and shade refer to the way light affects a shape, object, or form.
- ▶ Value is the most often used to grade lightness or darkness
  - ▶ Value 10 thru 0

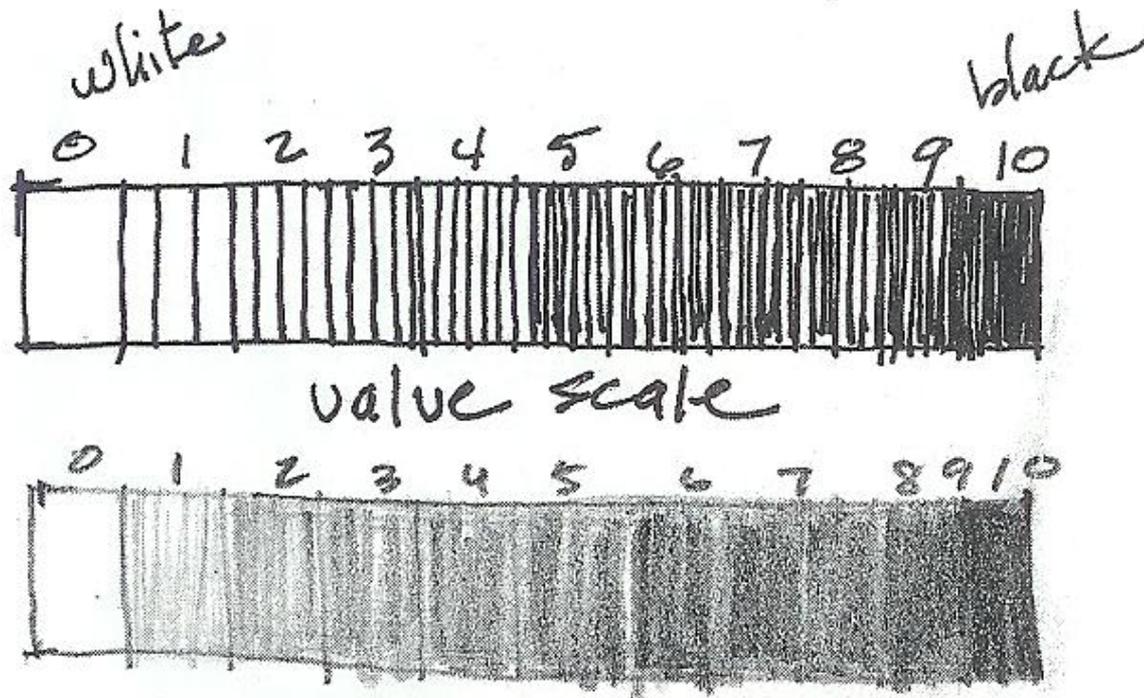
- ▶ Tone refers to the degree of lightness or darkness of an area



# Exercise – value study

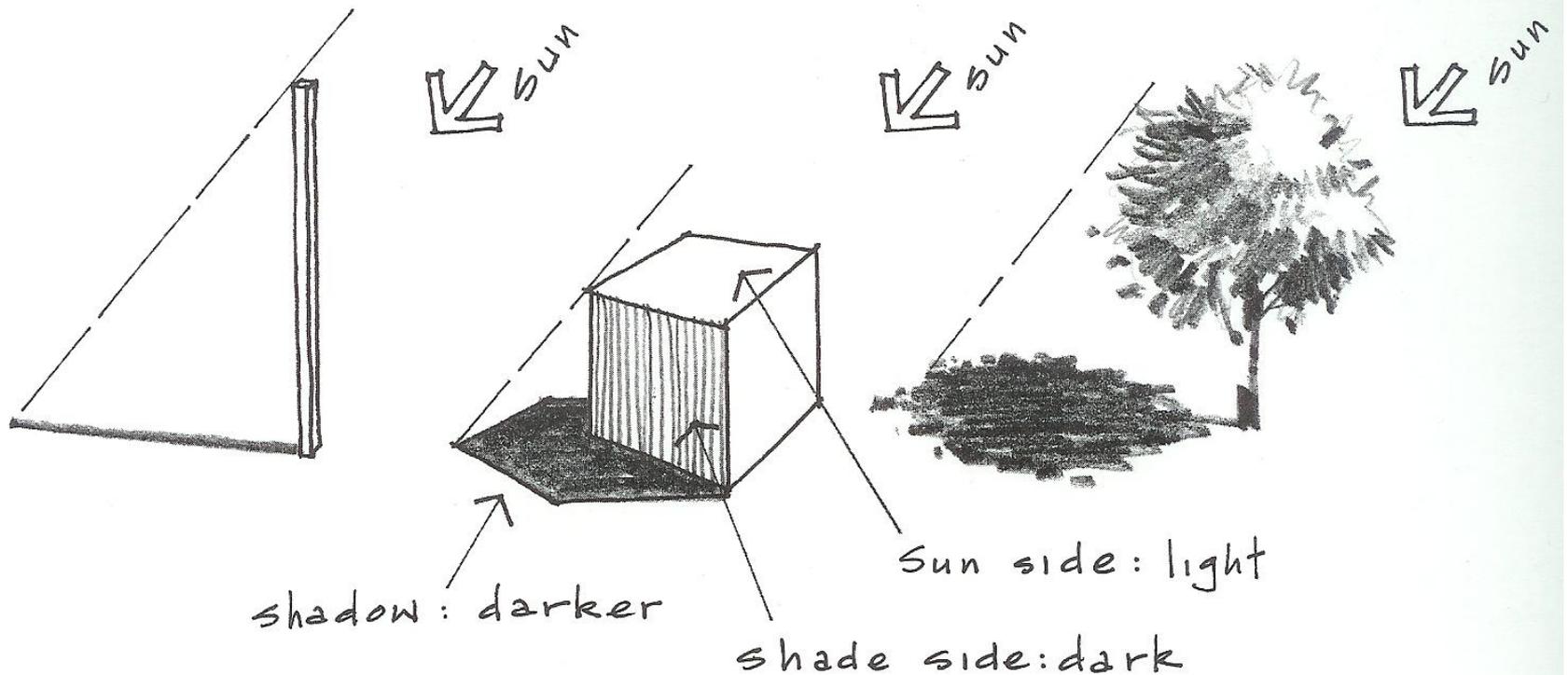
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- ▶ Practice a value study from 0 to 10
  - ▶ Use tone of lines or porches to differentiate the values



# Shade and shadow

- ▶ Shade occurs when the form of the object excludes the light rays from part of its surface
- ▶ Surfaces in shade cast shadows

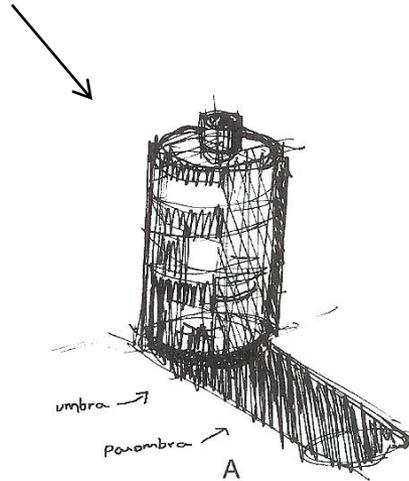


# Light

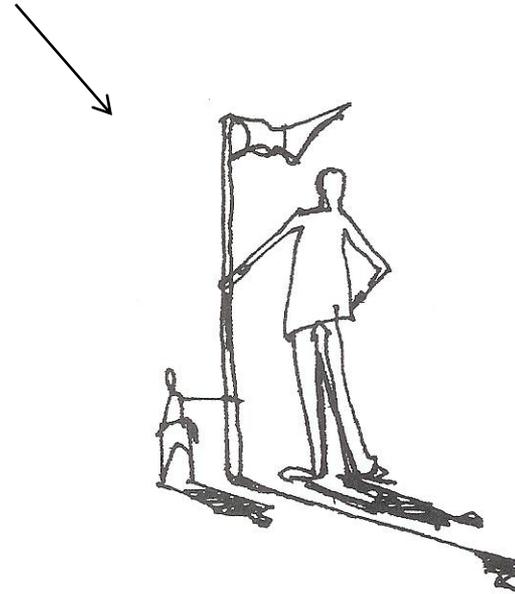
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## ▶ Shadow

- ▶ Draw as “What you see is what you get”
- ▶ Drawings should always maintain a clear and consistent light source



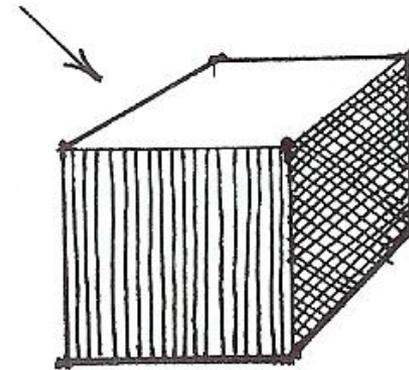
- ▶ Shadow relies on sun direction and scale
- ▶ Shadow cast the opposite direction from the sun



# Exercise – one-point shadow casting

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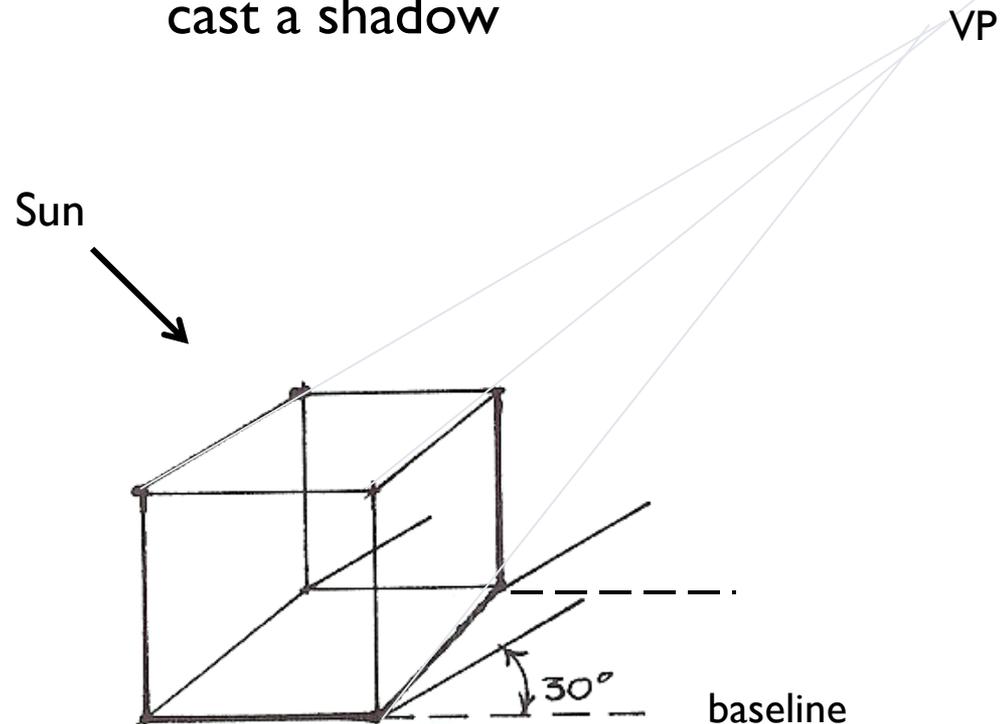
- ▶ **Select a light source**
  - ▶ Assuming the light source is coming from your left
- ▶ **Apply tone to the form**
  - ▶ Using tone of lines to create value
  - ▶ Lightest tone to the darkest tone
  - ▶ Apply to the sun side, shade, and shadow
  - ▶ Come out with your own shadow for the cube
- ▶ **Shadow cast the opposite direction from the sun**



# Exercise – step1 - shadow casting plane

- ▶ Assuming the light source coming from the left side
- ▶ Select points on the ground planes of the form that will block light and cast a shadow
- ▶ Shadow typically cast on 30 degree
  - ▶ Draw consistent angles from these points on the ground surface that will cast a shadow
- ▶ First, draw a cube in 1-point perspective (vanishing to the right side)

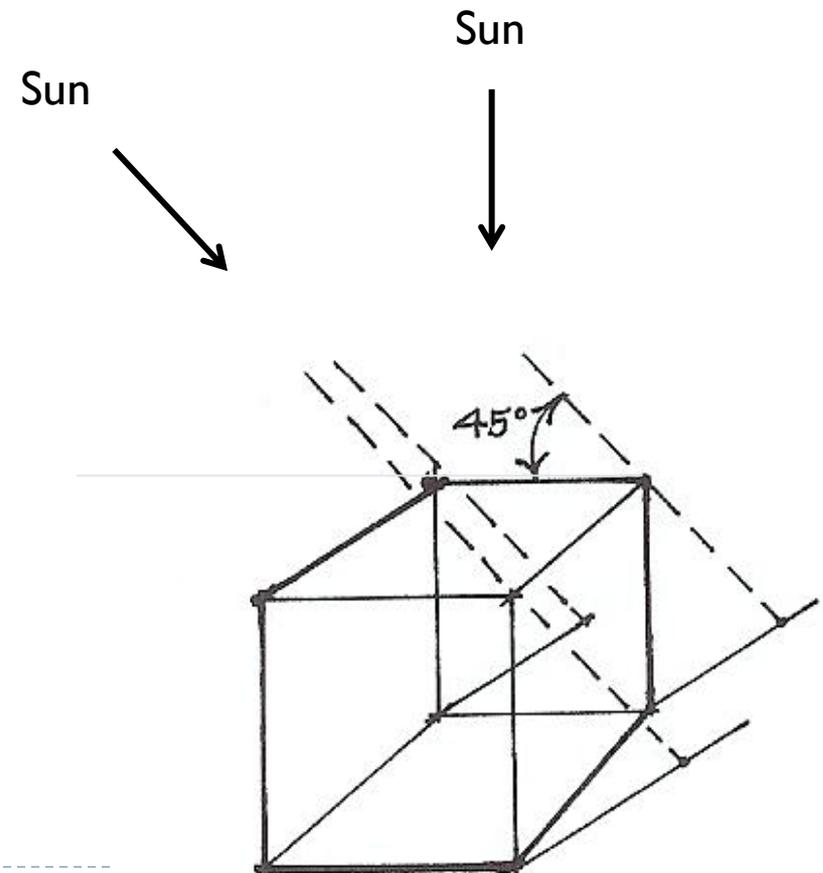
- ▶ Then draw 30 degree angle from the cube baseline to all these three corners that will cast a shadow



# Exercise – step 2 - determine length of the shadow

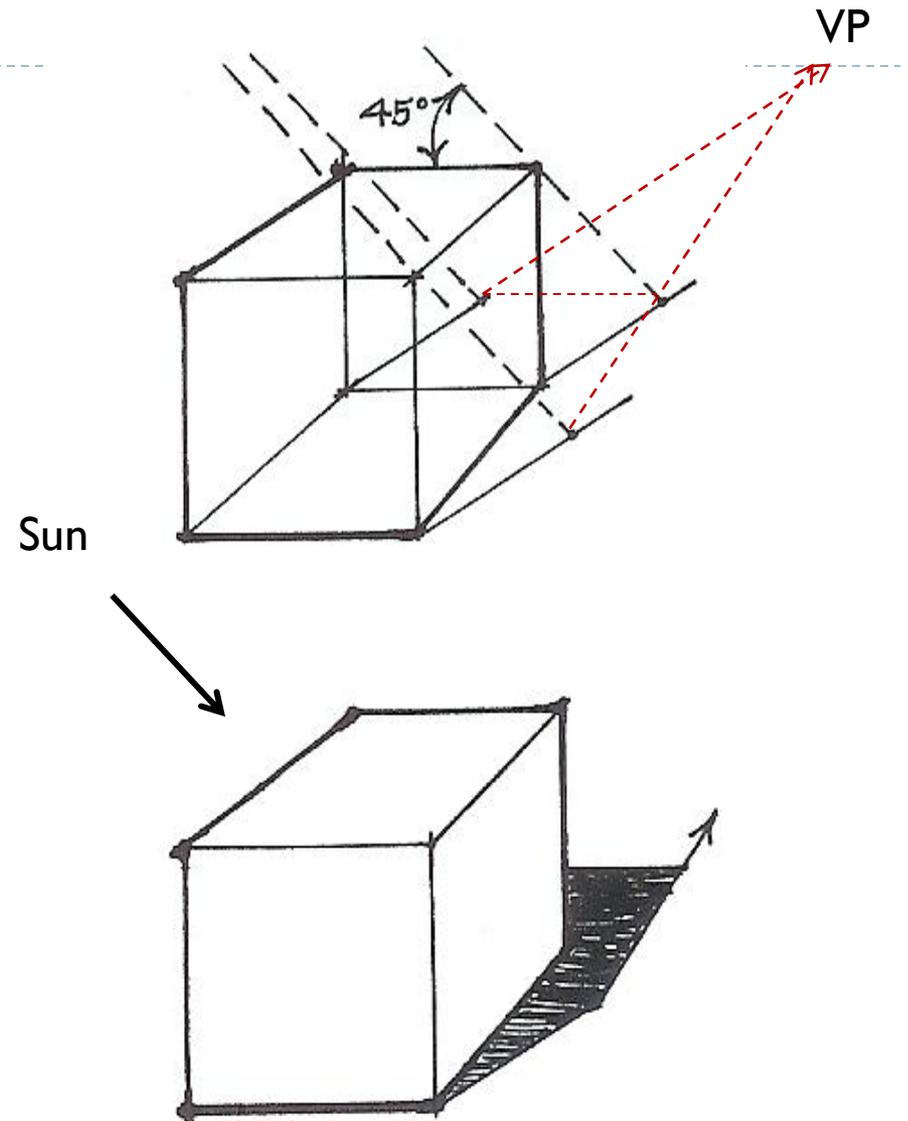
- ▶ From the top shadow casting (3) points, use 45 degree angle lines to determine the length of the shadow
- ▶ Light rays are assumed to be parallel
  - ▶ Then draw 45 degree angle from all three top corners to the 30 degree baseline that will cast a shadow (where they intersect)
- ▶ In reality, the shadow changes as the angle of the light source changes
- ▶ When light source is directly over an object, it produces no shadow

- ▶ Conventional direction of light is 45 degree



# Exercise – step 3 – determine the shape of the shadow

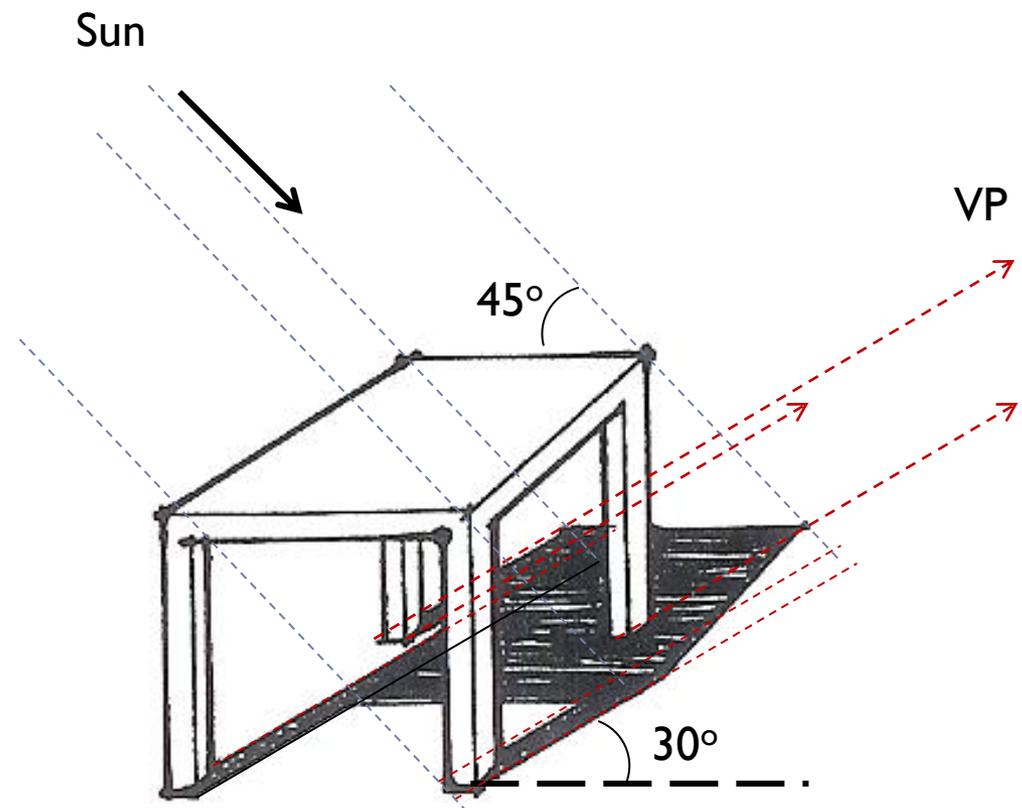
- ▶ The 45 degree lines will intersect with the 30 degree lines, then close out the shadow with a parallel line and a line to the vanishing point (VP)
- ▶ Provide shade and shadow to the cube
  - ▶ Use tone of hatching to show the value of the shadow and shade



# Exercise 1 – 1-point shadow casting

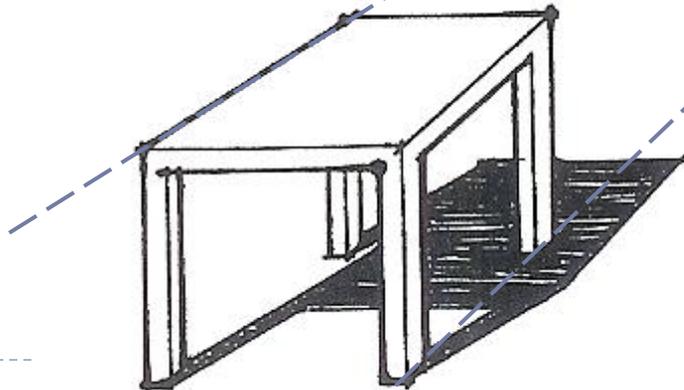
- ▶ Draw this table with shadow casting
- ▶ The same principles apply to this open leg table
- ▶ Provide shade and shadow to the table
  - ▶ Use tone of porches to show the value
- ▶ First, draw the table in 1-point perspective (VP to the right side)
- ▶ Then draw 30 degree angle from all the legs
  - ▶ Draw consistent angles from these points on the ground surface that will cast a shadow

- ▶ Use 45 degree angle lines for light source to determine the length of the shadow



- ▶ First, draw the table in 1-point perspective (VP to the right side)

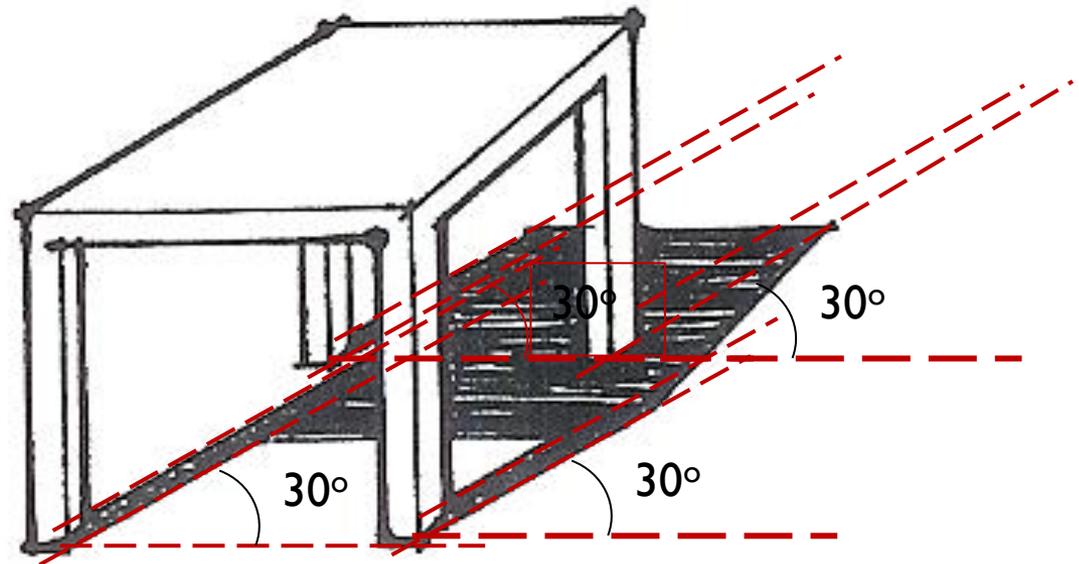
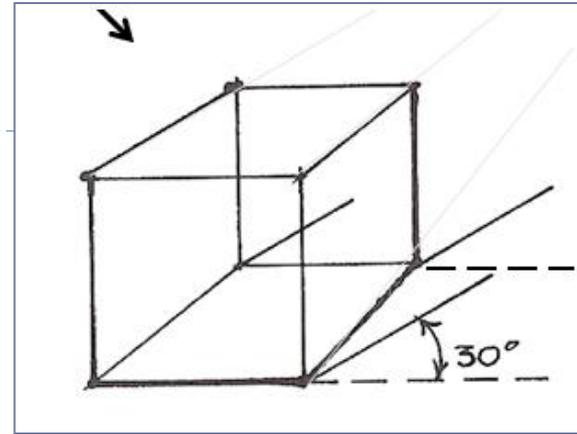
Sun



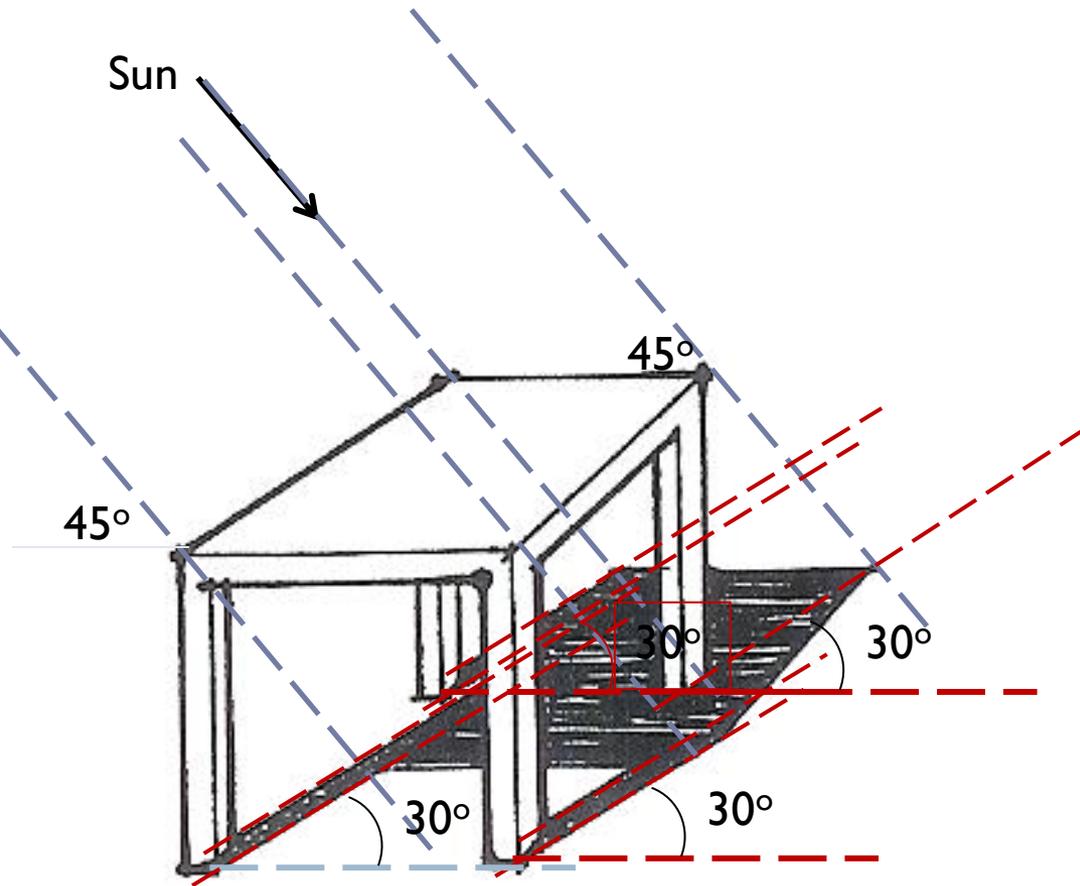
VP

- ▶ Then draw 30 degree angle from all the legs from the baseline
- ▶ Draw consistent angles from these points on the ground surface that will cast a shadow

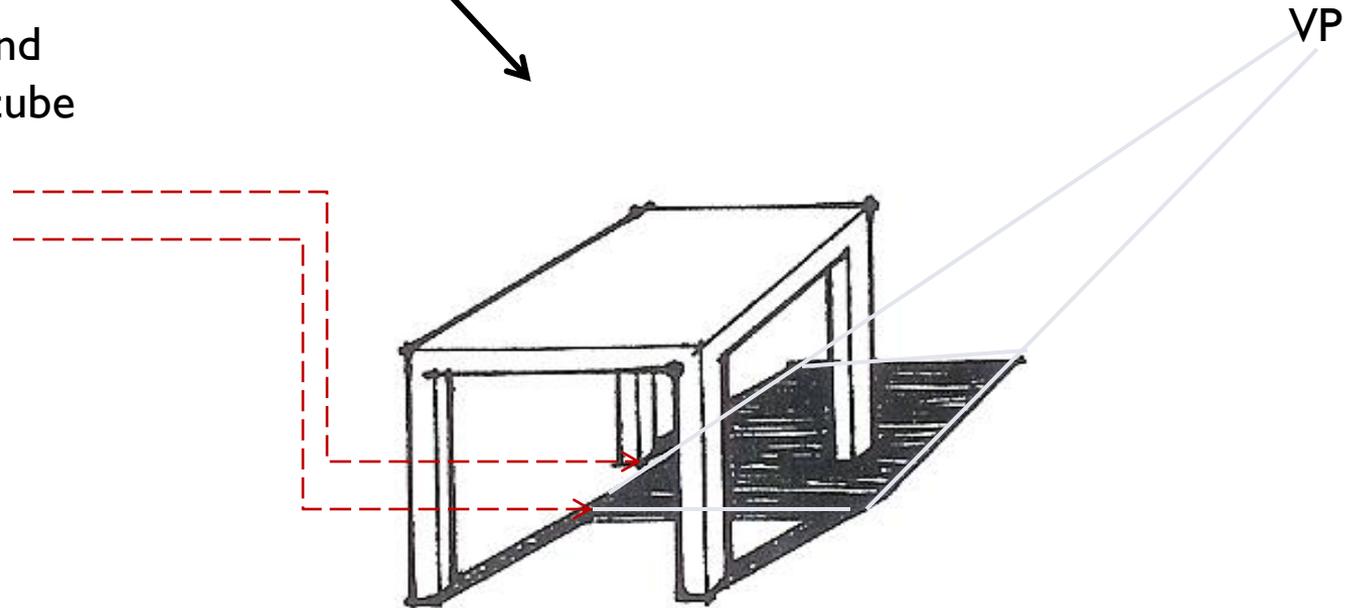
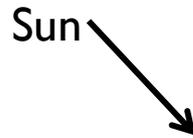
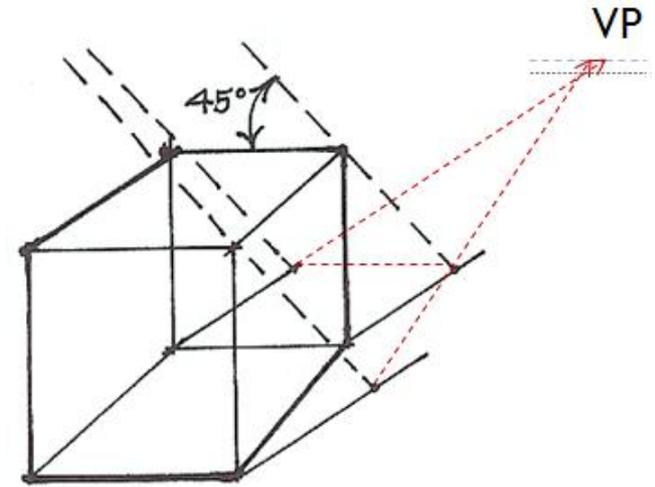
Sun



- ▶ Now use 45 degree angle lines for light source to determine the length of the shadow
- ▶ All the light rays are assumed to be parallel
  - ▶ 45 degree angle from all top corners to the 30 degree baseline that will cast a shadow (where they intersect)

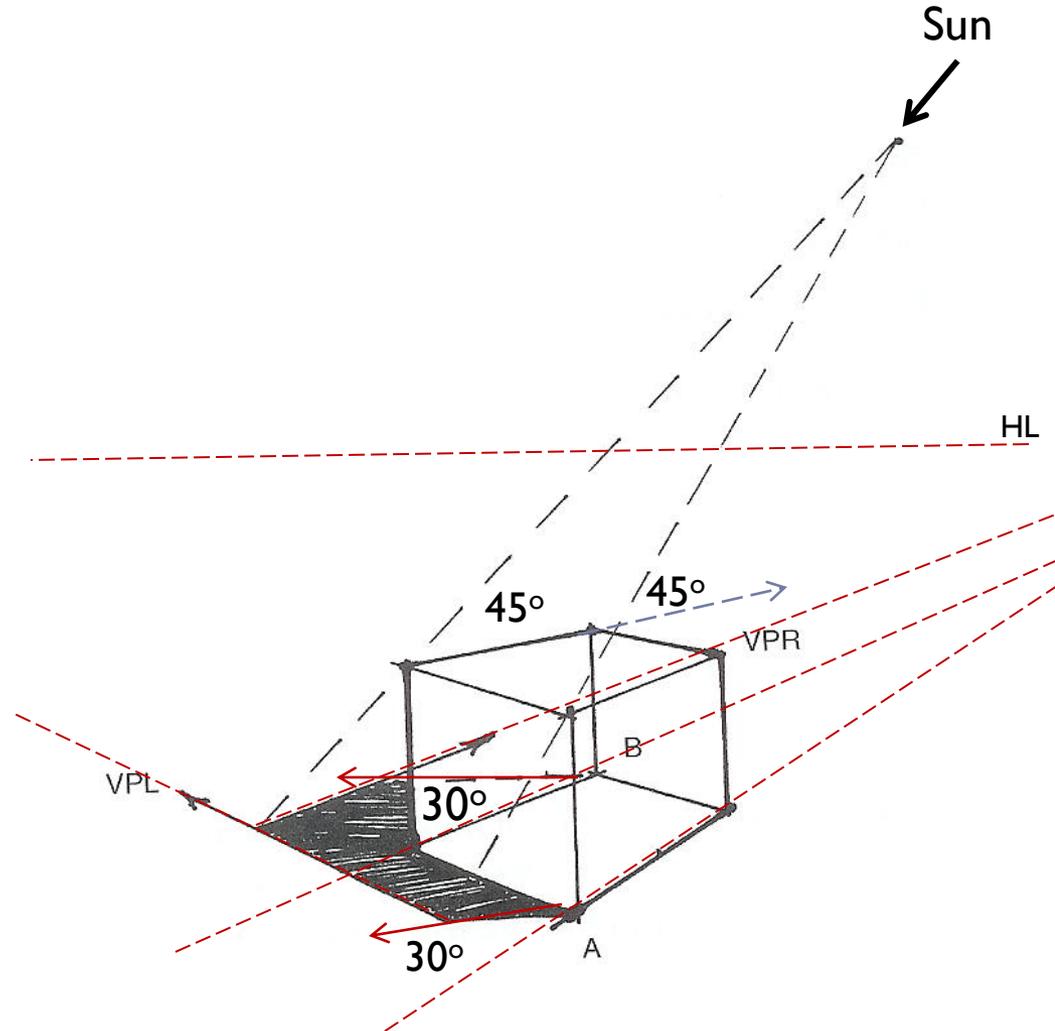


- ▶ The 45 degree lines will intersect with the 30 degree lines, then close out the shadow with a parallel line and a line to the vanishing point (VP)
- ▶ Provide shade and shadow to the cube



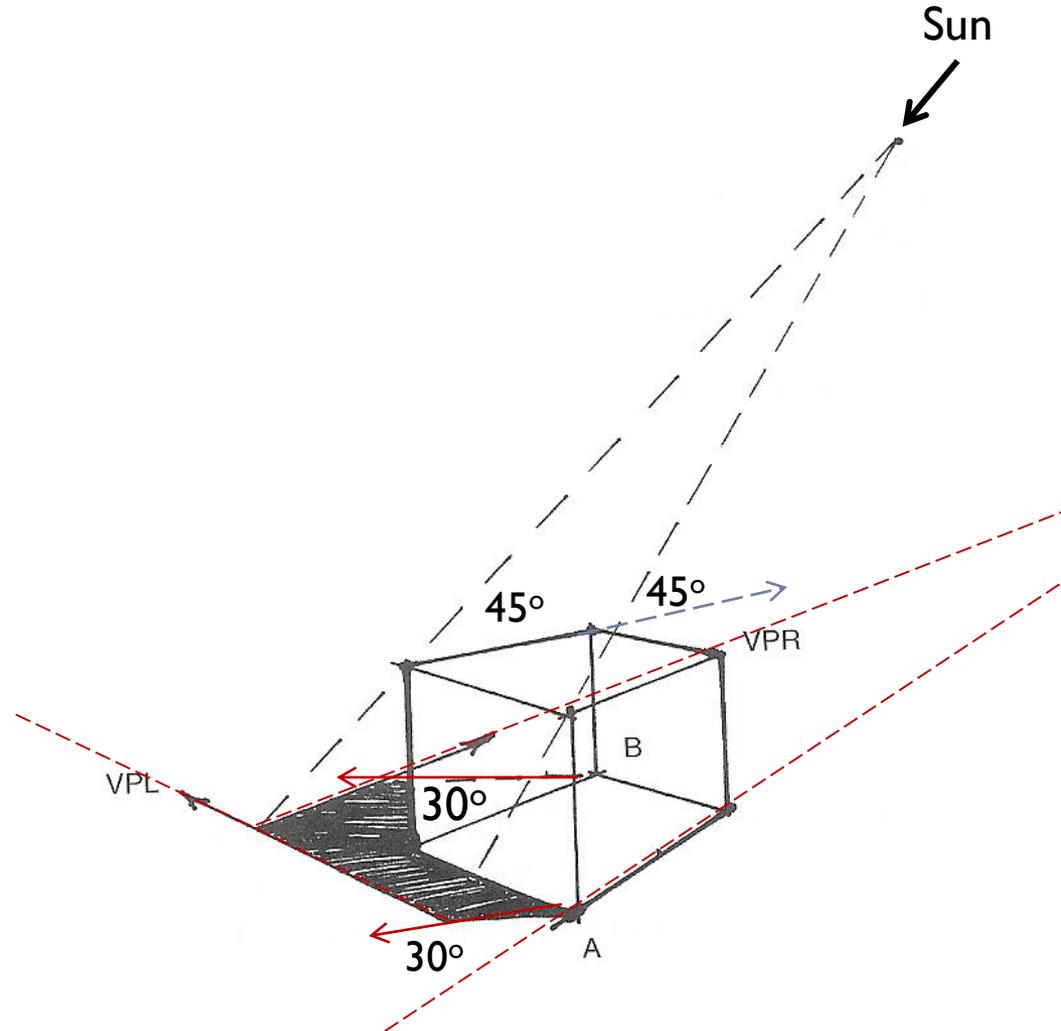
# Exercise 2 – two-point shadow casting

- ▶ Select a light source
  - ▶ Assuming the light source is from your right (45 degree)
- ▶ Set up the HL and the VPs
- ▶ Draw two-point cube below the HL
- ▶ Extend (baseline) lines at point A and B receding from RVP
- ▶ Then draw consistent 30 degree angles from these points (A and B) on the ground surface for the shadow casting



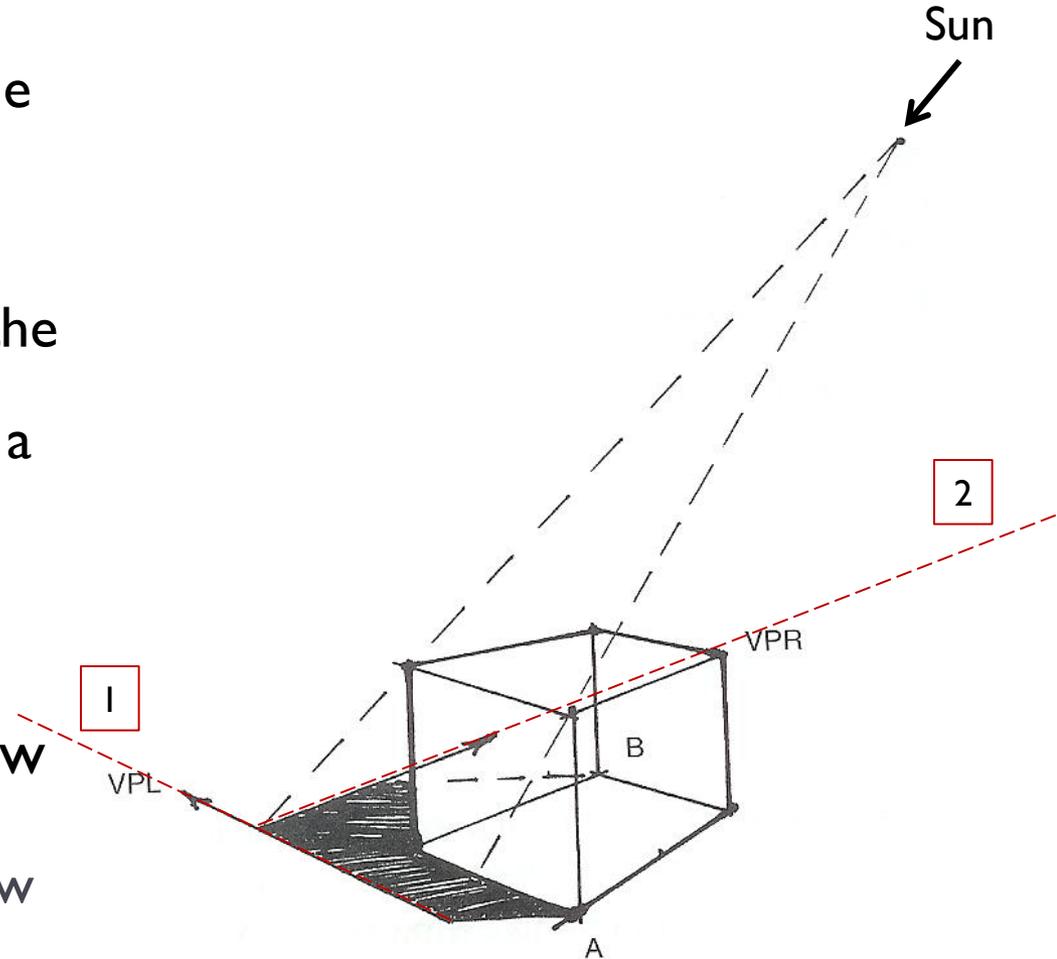
# Exercise 2 – two-point shadow casting

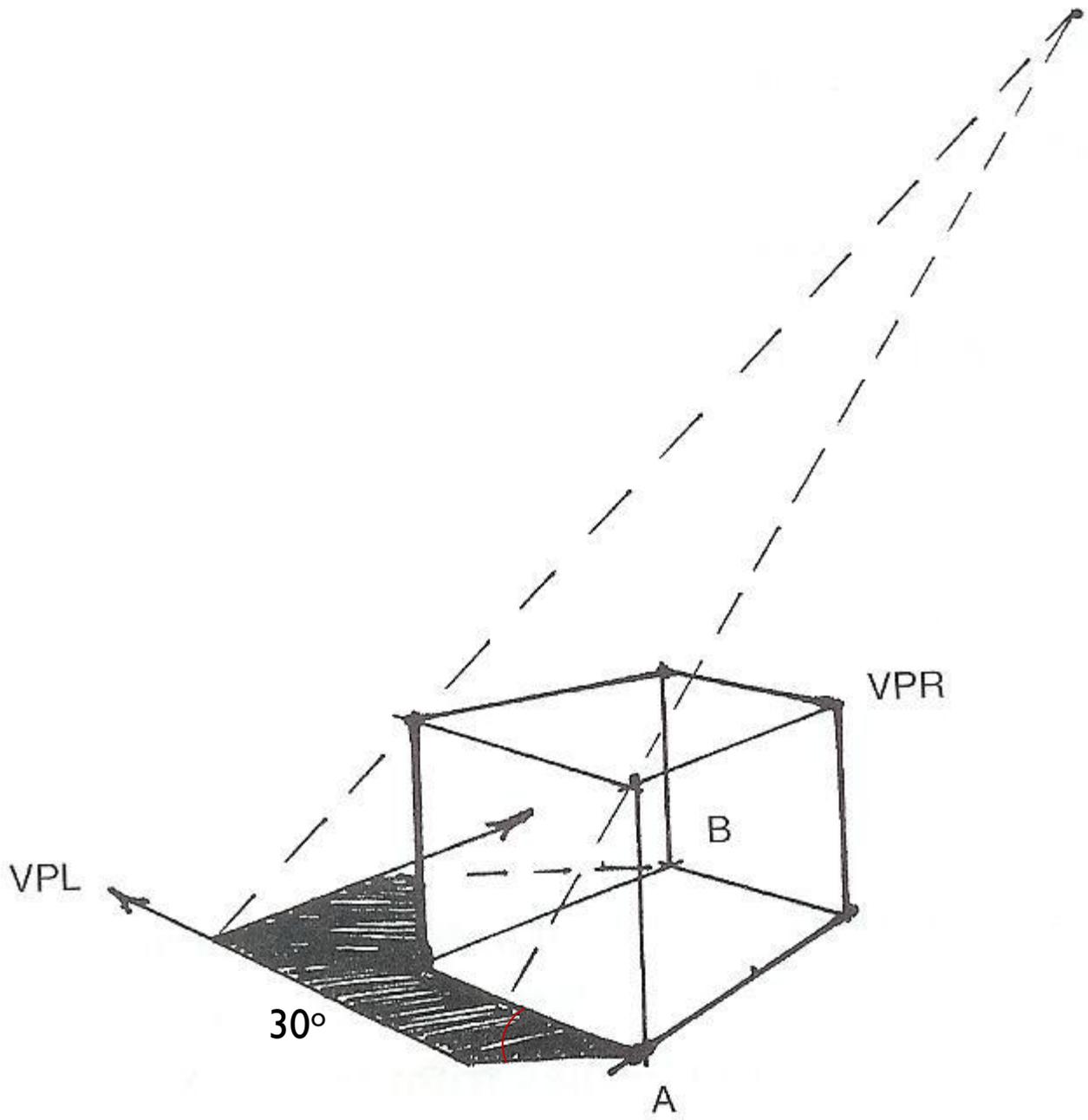
- ▶ Use 45 degree angle lines for light source to determine the length of the shadow
- ▶ 45 degree angle from all top corners to the 30 degree baseline that will cast a shadow (where they intersect)
- ▶ All the light rays are not parallel (2-point)



# Exercise 2 – two-point shadow casting

1. Where line intersects a shadow-casting line from the light source, draw a line toward vanishing point left (VPL)
2. Where this line intersects the other shadow-casting line from the light source, draw a line toward vanishing point right (VPR)
3. Close the shadow with a parallel line back to point B
4. Provide shade and shadow to the cube
  - ▶ Use tone of porches to show the value

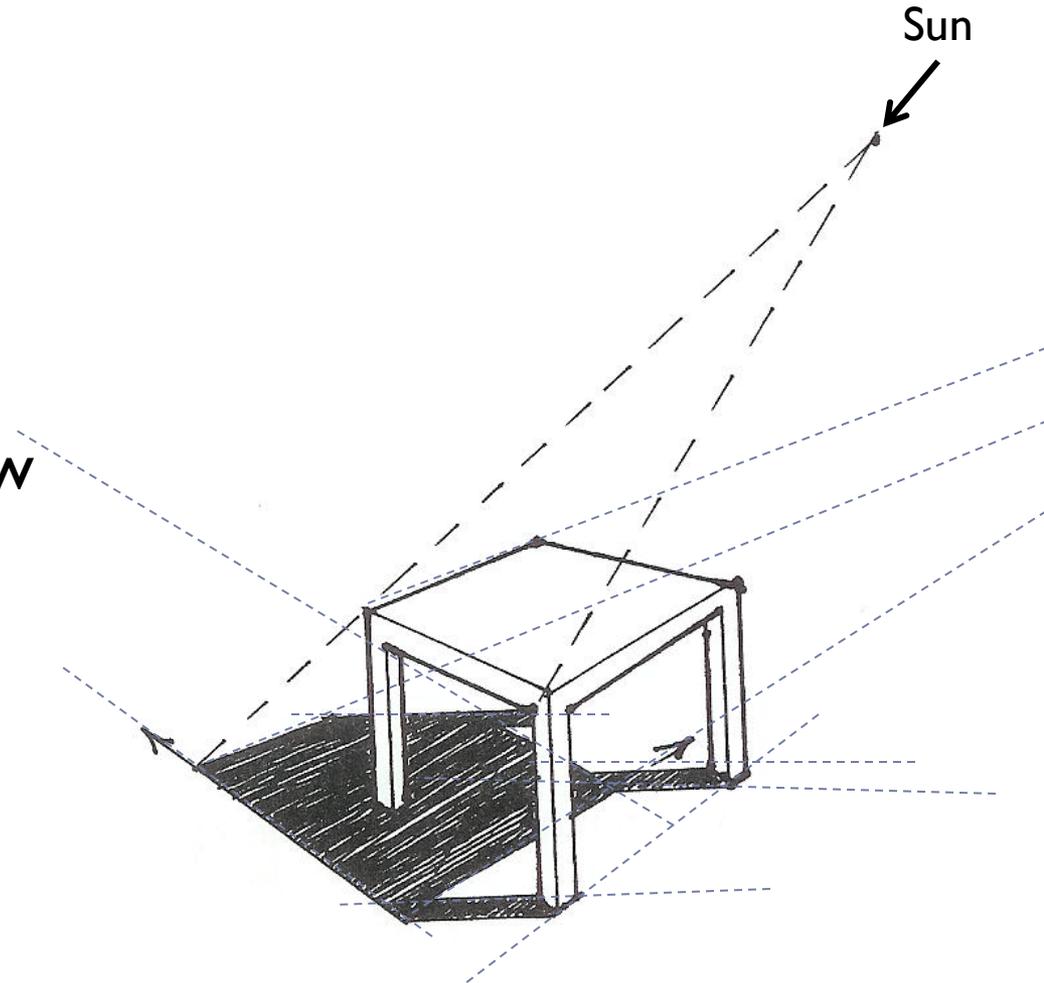




## Exercise 3 – two-point shadow casting for a table

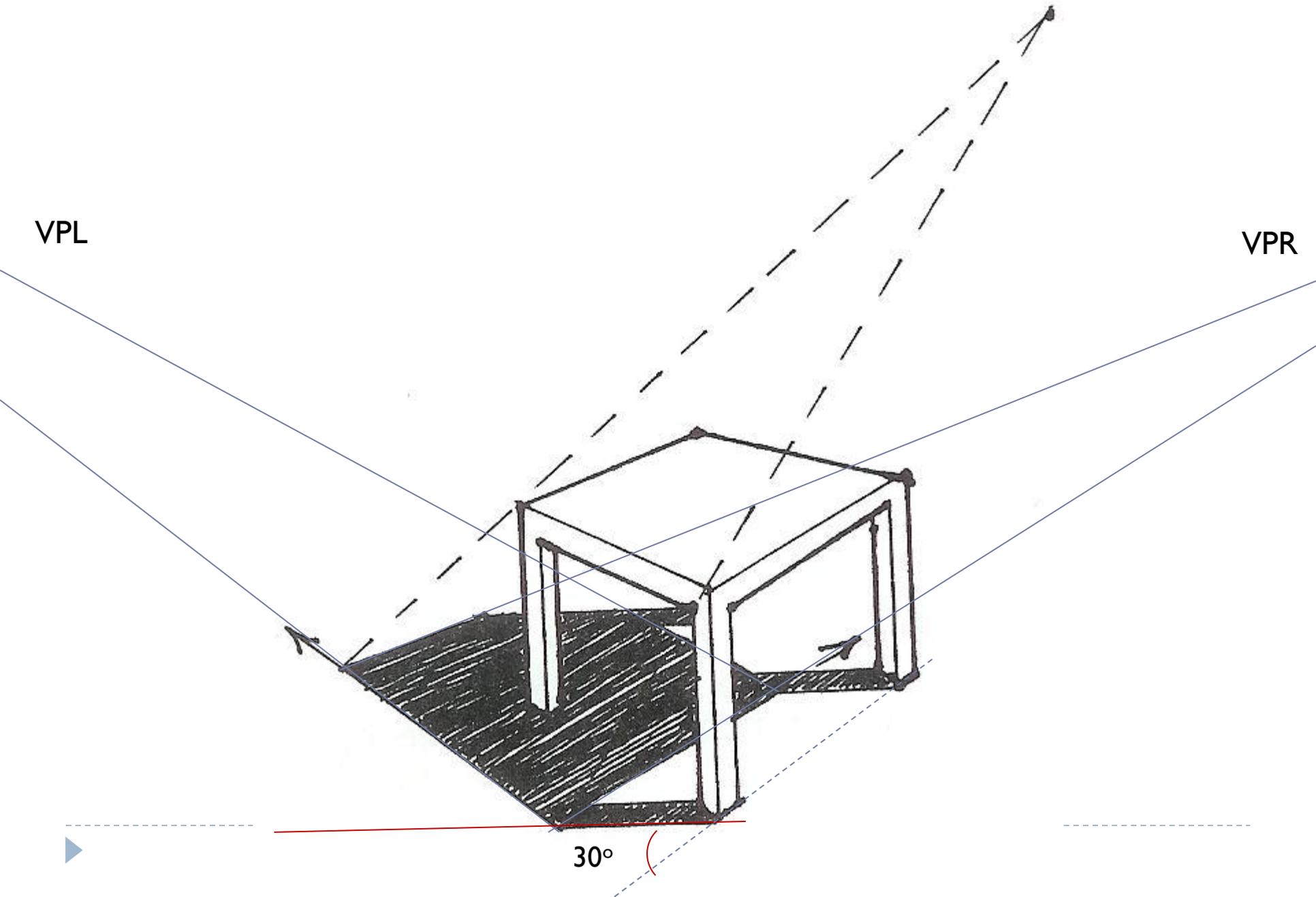
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- ▶ Draw this table with shadow casting
- ▶ The same principles apply to this open leg table
- ▶ Provide shade and shadow to the table
  - ▶ Use tone of porches to show the value



VPL

VPR

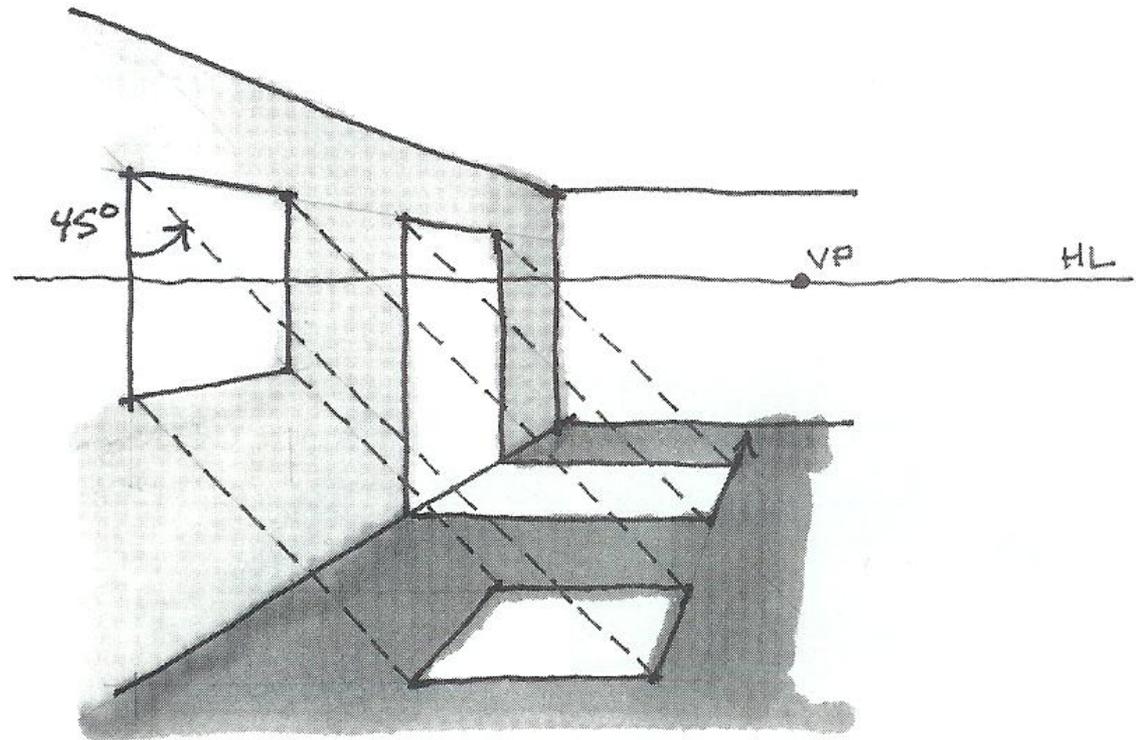


30°

## Exercise – one-point on window and door opening

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- ▶ Shows shadow-casting thru a window and an opening at a 45 degree angle
- ▶ Show the values for shade and shadow



# Exercise – sketch it out

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- ▶ Show the values for shade and shadow

