

Handout 1: Nobody Puts Baby In A Corner Drawing Answers

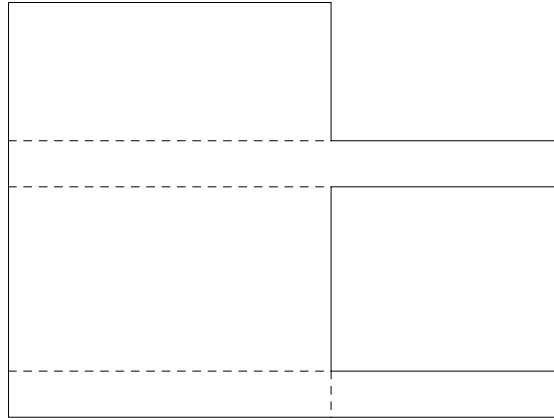


Figure 1

1. Your friend Victoria would rather go fishing with a net than draw one. After being told to draw the net for a rectangular prism, she draws Figure 1. Is she right or wrong?
Wrong, two of the sides would overlap.
2. What is the minimum number of orthogonal drawings needed to create an accurate corner drawing?
3.
3. Is it possible for a polyhedron to have 6 faces, 8 vertices, and 12 edges?
Yes, it is possible because polyhedrons have to abide by Euler's formula ($F + V = E + 2$).
4. Is it possible for a polyhedron to have 8 faces, 10 vertices, and 14 edges?
No.
5. Find the surface area of a rectangular prism if it consists of four rectangles of $2\text{ ft} \times 6\text{ ft}$ and two rectangles of $5\text{ ft} \times 6\text{ ft}$.
The surface area is 108 ft^2 .
6. Find the lateral area of a regular pentagonal pyramid using its net. The slant height of the pyramid is 6 ft and the edges of the base add up to 25 ft.
The lateral area is 75 ft^2 .
7. What type of solid could be formed with a net of six congruent rectangles and two congruent hexagons? If the edges of the hexagons are 1 unit and the lengths of the rectangles are 5 units, what is the surface area of the figure?
Hexagonal prism with a surface area of 35.2 units^2 .

8. The edge of a cube is 5 inches long. What is its surface area?

The surface area is 150 in^2 .

9. While helping your mom make salad for dinner, you cut the ends off a cucumber so that they're parallel and congruent. You can now choose to cut the cucumber lengthwise (from end to end) or parallel to the ends. What would the inside look like for each cutting method?

If you cut the cucumber lengthwise, you'll end up with a rectangle. If you cut parallel to the ends, you'll make circles.

10. You may have gotten rid of your little sister's Furby, but she still keeps the box it came in. Just the image of that demonic thing makes you break out into a cold sweat. The box is 8 inches long, 6 inches wide, and 10 inches tall. If you flattened out the box (and flipped it over so the Furby isn't staring you down), what would its surface area be?

376 in^2 of cardboard.