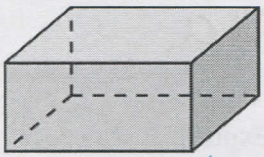
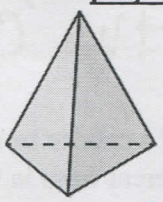
Name Key Date

11.4 Practice WS

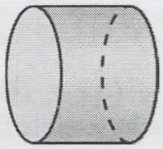
In Exercises 1–3, tell whether the solid is a polyhedron. If it is, name the polyhedron.

1. 

Yes, polyhedron prism

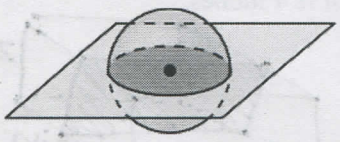
2. 

Yes, polyhedron pyramid

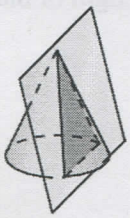
3. 

No, cylinder.

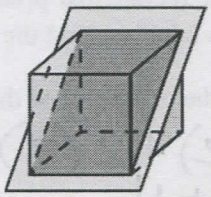
In Exercises 4–6, describe the cross section formed by the intersection of the plane and the solid.

4. 

Circle ⊙

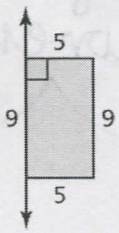
5. 

triangle △

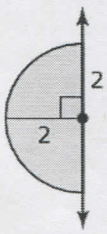
6. 

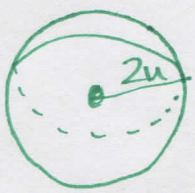
rectangle ▭

In Exercises 7–9, sketch the solid produced by rotating the figure around the given axis. Then identify and describe the solid.

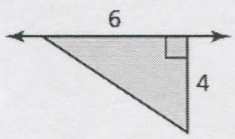
7. 

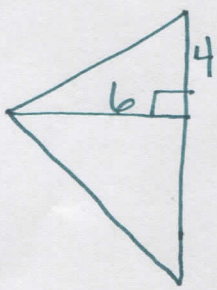
Cylinder w/ radius of 5u & height of 9u

8. 



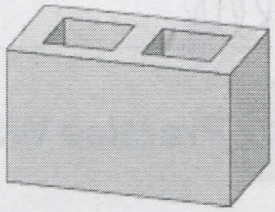
Sphere w/ radius of 2u.

9. 



triangular ⊙ based pyramid height 6u & radius of the ⊙ base of 4u.

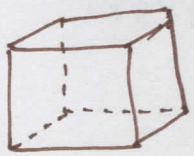
10. Is the block shown a polyhedron? Explain your reasoning.



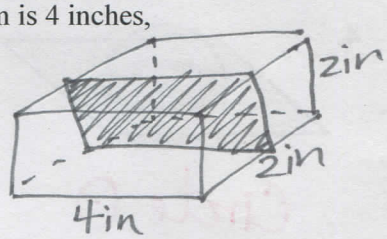
Yes, it is a bigger polyhedron with smaller polyhedron cut out. All edges, faces, and vertices meet the criteria in the definition

11. Sketch a cube. Is it possible for a cross section of a cube to be a square? Explain your reasoning. If so, describe or sketch two different ways in which the plane could intersect the solid.

Yes, you would get a square with any vertical or horizontal cross section.



12. Consider the rectangular prism in Exercise 1. The length of the prism is 4 inches, the width is 2 inches, and the height is 2 inches.



a. What is the perimeter of the cross section?

$P = 4(2) + 2(2)$
$= 8 + 4$
$= \boxed{12\text{in}}$

depends on your cross section

b. What is the area of the cross section?

$A = 4(2) = \boxed{8\text{in}^2}$

Diagonal cross section would require pythagorean theorem.