

Geometry Honors  
Ch 12 Mixed Review WS

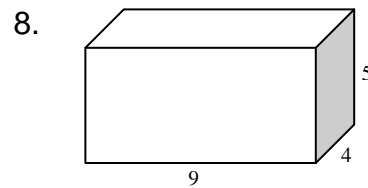
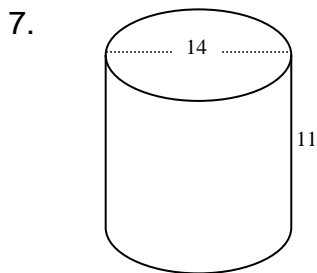
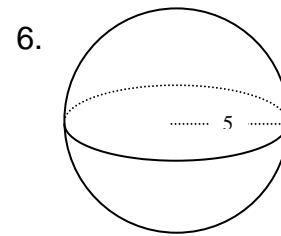
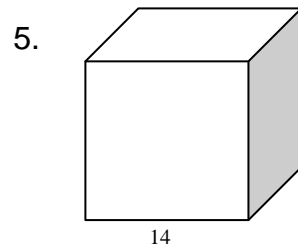
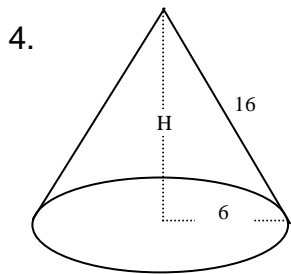
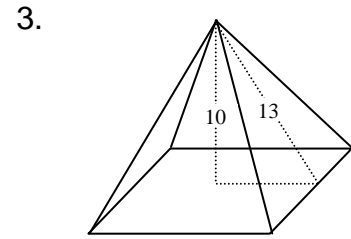
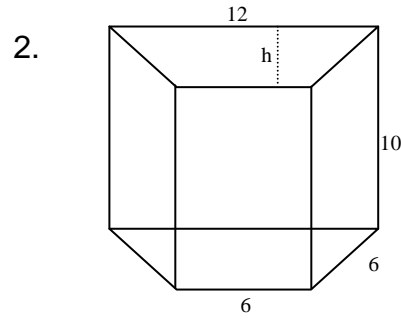
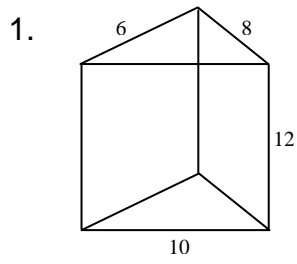
Part I

Do the following problems on a separate paper. For each make a sketch and show all steps of your solution. Be sure to include units in your final answer.

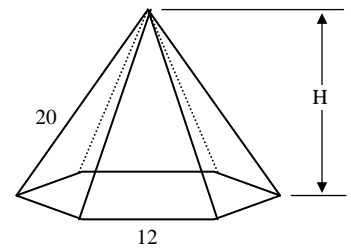
1. A right prism has a lateral edge of 3 in. and the perimeter of its base is 34 in. What is the area of its lateral surface?
2. Find the altitude of a right prism for which the area of the lateral surface is 143 sq. units and the perimeter of the base is 13 units.
3. The edges of a cross section of a triangular pyramid are 3, 6, and  $3\sqrt{3}$ . How long might the edges be of another cross section?
4. The altitude of a square pyramid is 10m and a side of the base is 15m. Find the area of a cross section at a distance of 6 from the vertex.
5. A cross section of area 108 sq. cm is 9 cm from the vertex of a pyramid whose base has an area of 180 sq. cm. Find the altitude of the pyramid.
6. One edge of the base of a regular square pyramid is 10 cm long and the altitude of the pyramid is 12 cm. Find the area of the lateral surface of the pyramid.
7. Find the total surface area of a regular hexagonal pyramid given an edge of the base is 8 cm and the altitude of the pyramid is 12 cm. Find its volume.
8. The area of a cross section of a pyramid is 20 sq. units and the area of the base of the pyramid is 45 sq units. If the altitude of the pyramid is 6 units, how far from the vertex is the cross section? What is the ratio of the volumes of the two pyramids?
9. A square pyramid is inscribed in a circular cone such that they have the same vertex and the base of the pyramid is inscribed in the base of the cone. The common altitude is 18 units and a side of the square is 15 units. Find the volume of each.
10. Find the ratio of the volumes of a sphere and a cone with equal width and height.

Part II

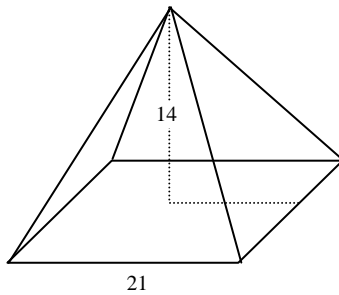
Find the volume and surface area of the figures in problems 1-9:



9. Regular hexagonal pyramid. The base edge is 12 cm. The lateral edge is 20 cm.



10. The square pyramid is cut  $\frac{4}{7}$  of the distance from the vertex. The height is 14 in and the base side edge is 21 in. Find the SA and volume of the resulting frustum.



11. Find the ratio of the surface areas of a sphere and a cube with equal width and height.