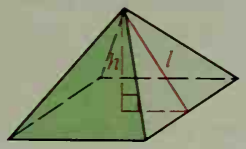
Written Exercises

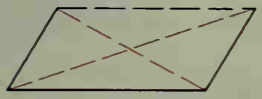
Copy and complete the table below for the regular square pyramid shown.

A

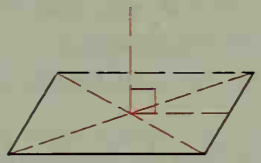
	1.	2.	3.	4.	5.	6.
height, h	4	12	24	?	?	6
slant height, l	5	13	?	12	5	?
base edge	?	?	14	?	8	?
lateral edge	?	?	?	15	?	10



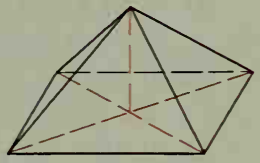
You can use the following three steps to sketch a square pyramid.



(1) Draw a parallelogram for the base and sketch the diagonals.



(2) Draw a vertical segment at the point where the diagonals intersect.



(3) Join the vertex to the base vertices.

Sketch each pyramid, as shown above. Then find its lateral area.

7. A regular triangular pyramid with base edge 4 and slant height 6

8. A regular pentagonal pyramid with base edge 1.5 and slant height 9

9. A regular square pyramid with base edge 12 and lateral edge 10

10. A regular hexagonal pyramid with base edge 10 and lateral edge 13

For Exercises 11–14 sketch each square pyramid described. Then find its lateral area, total area, and volume.

11. base edge = 6, height = 4

12. base edge = 16, slant height = 10

13. height = 12, slant height = 13

14. base edge = 16, lateral edge = 17

15. A pyramid has a base area of 16 cm^2 and a volume of 32 cm^3. Find its height.

16. A regular octagonal pyramid has base edge 3 m and lateral area 60 m^2. Find its slant height.

B

17. *V-ABCD* is a pyramid with a rectangular base 18 cm long and 10 cm wide. *O* is the center of the rectangle. The height, *VO*, of the pyramid is 12 cm.

a. Find *VX* and *VY*.

b. Find the lateral area of the pyramid. (Why can't you use the formula L.A. = $\frac{1}{2}pl$?)