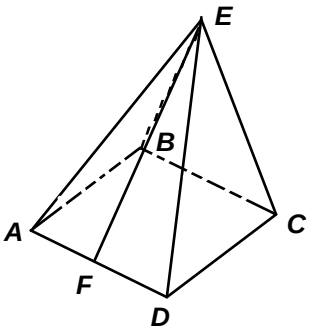
Geometry Practice: G.G.13
www.jmap.org

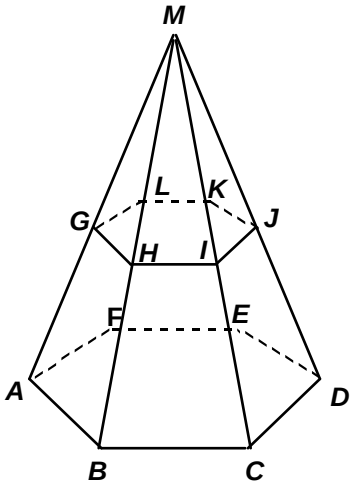
NAME:_____

P.I. G.G.13: Apply the properties of a regular pyramid, including lateral edges are congruent, lateral faces are congruent isosceles triangles, and volume of a pyramid equals one-third the product of the area of the base and the altitude

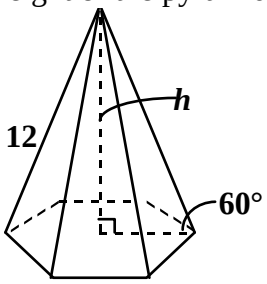
1. A square pyramid has a square base and lateral faces that are isosceles triangles. $\overline{EF}$ bisects $\overline{AD}$. If $m\angle FED = 25$, find $m\angle ECD$.



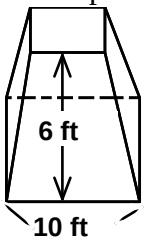
2. In this regular hexagonal pyramid, the plane through $\overline{GH}$ is parallel to the base and $AG = \left(\frac{1}{3}\right)AM$. If $AB = 9$ in., find the perimeter of *GHIJKL*.



3. A hexagonal pyramid has lateral edges of 12 cm and faces inclined at 60°. What is the height of the pyramid?

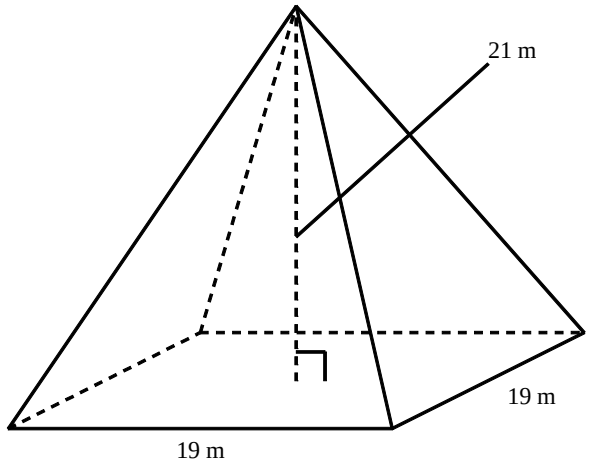


4. The frustum of a pyramid is the part of a pyramid between the base and a plane that cuts the pyramid parallel to the base. The frustum below was created by cutting the pyramid with a plane that contains the midsegments of the triangular sides. Find the area of one trapezoidal face.



5. The Great Pyramid near Cairo is one of history's most spectacular achievements. Its base covers an area large enough to hold 10 football fields. If the base of a pyramid is a square 400 m on a side, how long would a walkway that went around the entire pyramid halfway up be?

6. Calculate the volume of the pyramid.



[A] $19\frac{2}{3}$ m^3 [B] 2527 m^3 [C] 2519 m^3 [D] $280\frac{7}{9}$ m^3

7. Compare the quantity in Column A with the quantity in Column B.

Column A	Column B
the volume of a square pyramid with base edge = 12 and $h = 12$	the volume of a cone with $r = 6$ and $h = 12$

[A] The quantity in Column A is greater. [B] The quantity in Column B is greater.

[C] The two quantities are equal.

[D] The relationship cannot be determined on the basis of the information supplied.

Geometry Practice: G.G.13
www.jmap.org

[1] 65°

[2] 36 in.

[3] 10.4 cm tall

[4] The top edge is $\frac{10}{2} = 5$ ft, so the area of a side is $\frac{6(10+5)}{2} = 45$ ft^2.

[5] 800 m

[6] B

[7] A