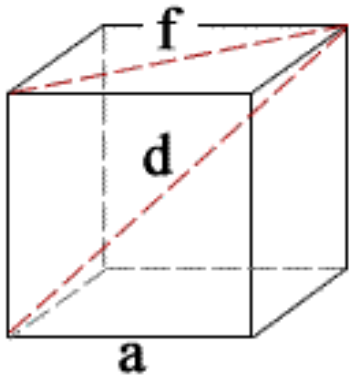
Another Dimension: Diagonals in a Cube

In this diagram of a cube, the symbols represent the length of the side (a), the diagonal (d) and the diagonal across one face (f) of the cube.



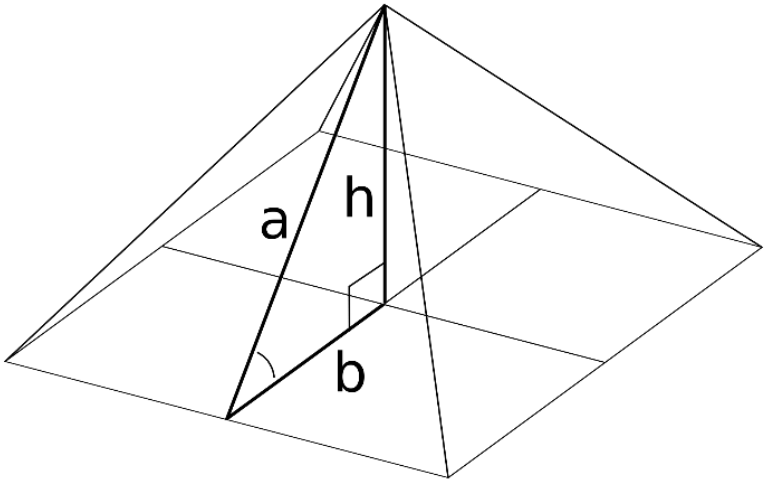
For each formula below, put a tick in the box showing whether it represents a length, an area or a volume in the diagram, and what part of the diagram you are referring to. If none, put a cross in all three choices.

Formula	Length	Area	Volume	Length, area or volume of what?
a^2				
$\frac{1}{2}af$				
$\frac{1}{2}a^2$				
$6a$				
$6a^2$				
$2(a + f)$				
$a + d + f$				
a^3				
$\sqrt{(d^2 - f^2)}$				

Another Dimension: Pyramid

In this diagram of a square-based pyramid, the symbols represent the length of the hypotenuse (a), the base (b) and the height (h) of the right angled triangle shown.

The height 'h' is also the height of the pyramid, meeting 'b' at the centre of the square base. The length 'a' is also the height of each of the 4 sloping triangular faces of the pyramid.



For each formula below, put a tick in the box showing whether it represents a length, an area or a volume in the diagram, and what part of the diagram you are referring to. If none, put a cross in all three choices.

Formula	Length	Area	Volume	Length, area or volume of what?
ab				
$4b^2$				
$2a$				
$8b$				
$a + b + h$				
$(4b^2h)/3$				
$½\ (abh)^2$				
$\sqrt{(a^2 - b^2)}$				
$4b(a + b)$				