

# Prisms and Pyramids

Name: \_\_\_\_\_

In the table below:

- Describe in words how you could work out the numbers of faces, edges and vertices of a prism if you know the number of sides of the base shape. Explain why this works.
- Describe in words how you could work out the numbers of faces, edges and vertices of a prism if you know the number of sides of the base shape. Explain why this works.
- Write these rules algebraically. Assume that the base shape has  $b$  sides.

Property	Rule in words	Why it works	Rule in algebra
Number of faces of prism			$f =$
Number of edges of prism			$e =$
Number of vertices of prism			$v =$
Number of faces of pyramid			$f =$
Number of edges of pyramid			$e =$
Number of vertices of pyramid			$v =$

# Mystery Shapes

Name: \_\_\_\_\_

Each of the three-dimensional shapes in the table below is either a prism, a pyramid or, in one case, impossible. Use the rules you found previously for the numbers of faces, edges and vertices to fill in the blanks. You will need to work out whether the last six shapes are prisms or pyramids.

You may need extra working out space. Explain in the last column how you worked out each result.

Prism or pyramid?	Number of sides of base ( $b$ )	Number of faces ( $f$ )	Number of edges ( $e$ )	Number of vertices ( $v$ )	How did you work this out?
prism	20				
prism		20			
pyramid				17	
pyramid			22		
prism			22		
			27		
		11		11	
	50			100	
	50	51			
		10	24		
			24	13	