

# Faces, edges and vertices



| Solid                                                                                                         | Faces         | Edges           | Vertices       | $F + V - E$       |
|---------------------------------------------------------------------------------------------------------------|---------------|-----------------|----------------|-------------------|
|  <b>Cube</b>                 | <b>6</b>      | <b>12</b>       | <b>8</b>       | $6 + 8 - 12 = 2$  |
|  <b>Cuboid</b>               | <b>6</b>      | <b>12</b>       | <b>8</b>       | $6 + 8 - 12 = 2$  |
|  <b>Triangular prism</b>     | <b>5</b>      | <b>9</b>        | <b>6</b>       | $5 + 6 - 9 = 2$   |
|  <b>Hexagonal prism</b>      | <b>8</b>      | <b>18</b>       | <b>12</b>      | $8 + 12 - 18 = 2$ |
|  <b>Square pyramid</b>     | <b>5</b>      | <b>8</b>        | <b>5</b>       | $5 + 5 - 8 = 2$   |
|  <b>Triangular pyramid</b> | <b>4</b>      | <b>6</b>        | <b>4</b>       | $4 + 4 - 6 = 2$   |
|  <b>Cylinder</b>           | <b>2 flat</b> | <b>2 curved</b> | <b>0</b>       | —                 |
|  <b>Cone</b>               | <b>1 flat</b> | <b>1 curved</b> | <b>1 point</b> | —                 |
|  <b>Sphere</b>             | <b>0 flat</b> | <b>0</b>        | <b>0</b>       | —                 |

**Count the ones you cannot see.** Every dashed line is a hidden edge. For any solid with FLAT faces  $F + V - E = 2$ , which checks that you counted them all. The last three have a curved surface, which is not a face and is not counted as one here — so the check has nothing to say about them.