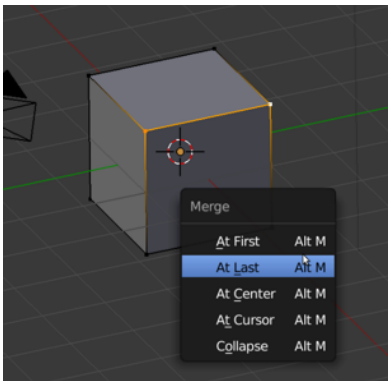
Appendix E: Twenty tips for Blender 2.79

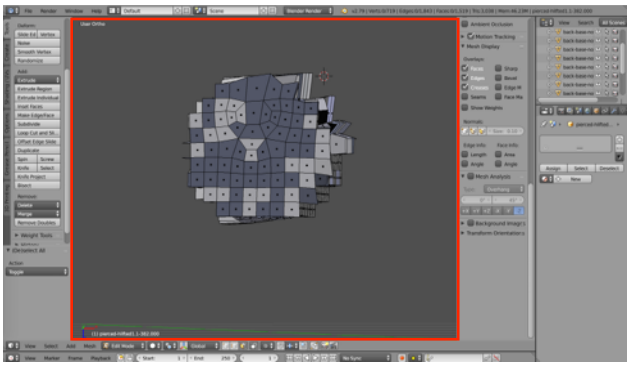
https://docdro.id/HiRKexL

1. The commonest shortcuts. The ‘5’ key toggles between perspective and isometric views, the latter usually desired. The Tab key toggles between Object and Edit mode, a common switch. To slide a (selected) vertex along an edge, you hold down Shift and press ‘v’. Once the state is invoked you can let go of the keys. You can’t slide a vertex past another vertex or merge two vertices by sliding. Multi-step commands and commands which require acceptance can be interrupted with Esc.

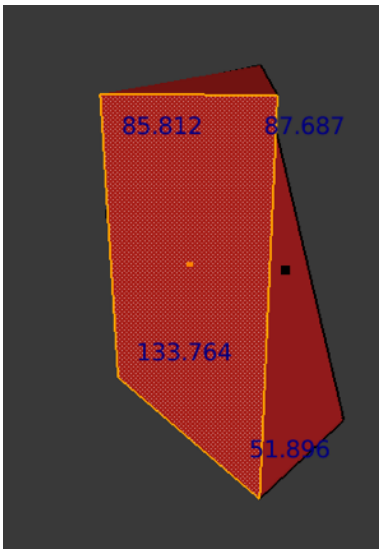
2. Merge two points. Shift-select the two points, press ‘m’ while holding down ‘Alt’, and then press a key corresponding to one of the selections on the pop up menu. For me this is usually the ‘a’ key, though sometimes the ‘c’ key.

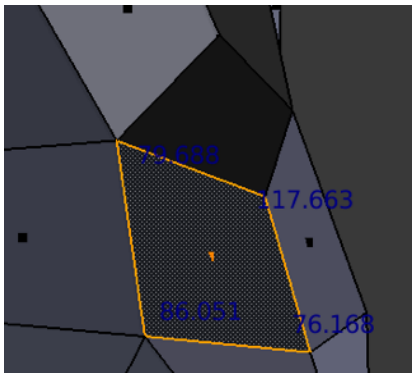


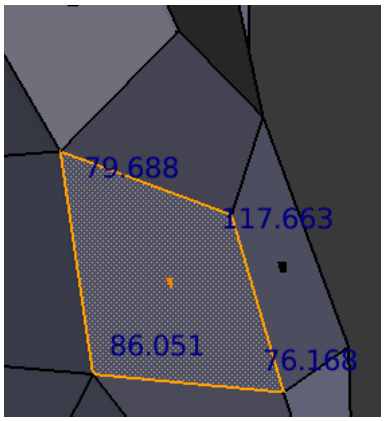
3. Keep the mouse cursor inside the 3D window. If you are using a keyboard shortcut, or passing a command that requires multiple steps, Blender will remain unresponsive unless the mouse cursor is inside the boundaries of the 3D window, the area bounded by red, shown right.



4. View a face straight on. There may be times when you need to view a face from a perpendicular viewing angle. This is simple, just press Shift + ‘7’, or, to view the opposite side, Shift + Ctl + ‘7’.

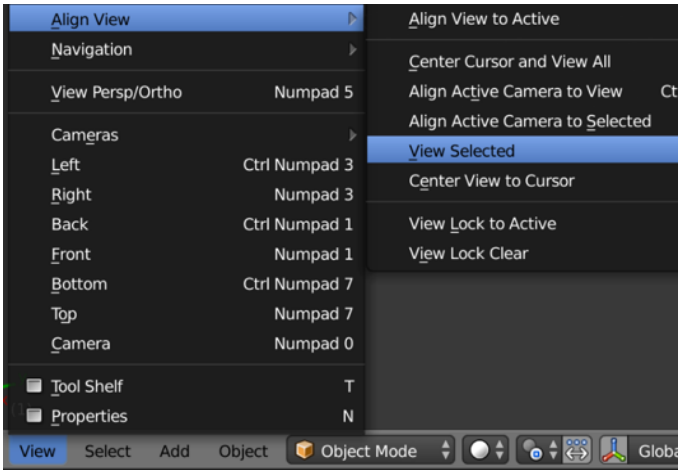






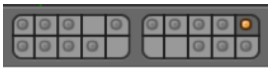
5. Flip face normals. When the shading tone assignment for a face interferes with viewing the face or the numerals attached to it, just press ‘w’ then ‘f’ to flip the normal and get the alternate, lighter shading.

6. Reset trackball control. When rotating an object in a new field of view, the trackball movement is sometimes greatly out of proportion to the object under observation. It needs to be reset. One way to do this is to select one vertex (or face) on the current object, then choose View > Align View > View Selected. The view is seen to shift slightly, while under the hood the movement scale is reset appropriately.



7. Use productive hiding strategies. A single face or a larger selection is hidden by pressing the ‘h’ key. It is unhidden by pressing the Alt+‘h’ key combination. The Shift+‘h’ combination hides objects and components which are not selected. (To invert a selection, without regard to hide, press Ctl+‘i’.) The Limit-selection-to-visible icon, right, which shows lighter in shade when selected, has implications for hiding. When it is active, the boundary, ‘b’ key, and circle, ‘c’ key, selection tools can quickly remove sections of the model which are interfering with inspection. When the L-s-t-v icon is not active, hiding with ‘c’ and ‘b’ can still be usefully employed to peel back successive layers of faces until a desired feature of the mesh is reached.

8. Use layers. Layers are practically essential to useful organization in Blender. The layer layout diagram is only visible in Object mode. Often it is desirable to Shift + ‘d’, duplicating the object before ‘m’, moving it to a different layer, though sometimes it is not. The camera viewpoint and zoom level remain the same whatever layer is being observed. This helps orient and identify objects when working on multiple layers simultaneously.

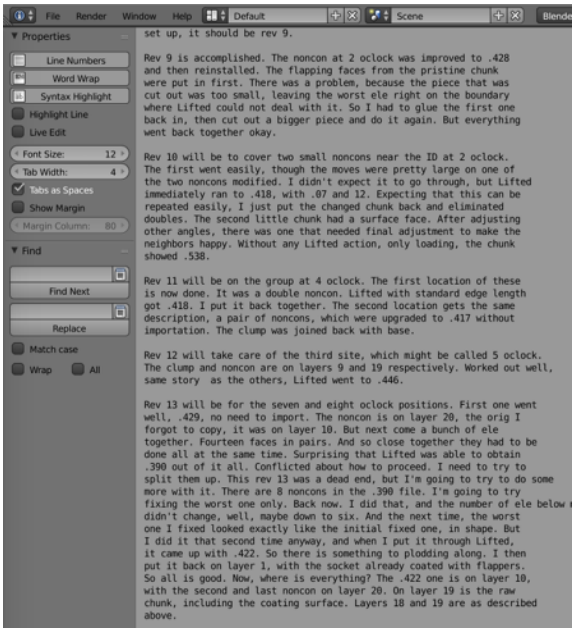


In the top pic right the objects present on layer 10 are visible in the 3D viewing window. In the bottom view the view has just been switched from layer 10 to layer 5. A faint dot serves as reminder that layer 10 has just been left. The faint dot can also be used to track down an object on unknown layer. When the name of the object is highlighted in the object pipeline list in upper right corner, (in Object mode) a faint dot appears on the layer diagram corresponding to the layer that object is on.

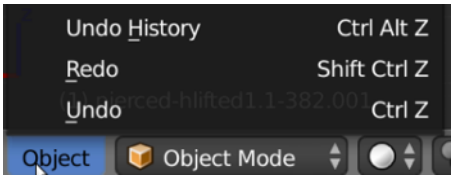
To clear a layer, just press ‘a’ to select all objects on the layer, then ‘x’ to delete, and accept.

9. Use sensible names. The names for objects can be anything you want, and can be changed at any time, as shown right. An apt name can provide clarifying context.

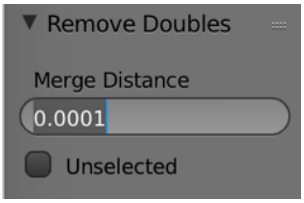
10. Create an internal chronicle of a project. One of the seventeen working views making up Blender is the Text Editor. Starting and maintaining a text description can be useful. A running document makes a handy reference source if the project becomes complex, and the progressively extended document is automatically saved each time a file is saved.



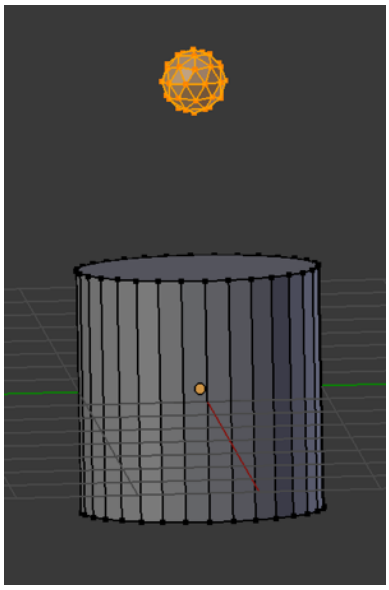
11. Use undo. The global undo, set in User Preferences, consists of 96 steps in Hexi, and the number can be changed if desired. Ctl+‘z’ is the shortcut for undo, an indispensable tool. If some of the steps to be undone have been executed in Object mode, it is better to carry out the undo in Object mode. There is also a redo, invoked by Ctl + Shift + ‘z’. Some actions such as snapping, do not respond to undo, so a long string of undo steps is not likely to succeed.



12. Use Remove Doubles. This command removes duplicate vertices. By default, the vertices must be selected in order for it to work, a convenient convention which allows setting the merge distance. The default merge distance is 0.0001, as shown right, and is generally a safe distance. However, based on the model scale or special circumstances, a different merge distance may be chosen.



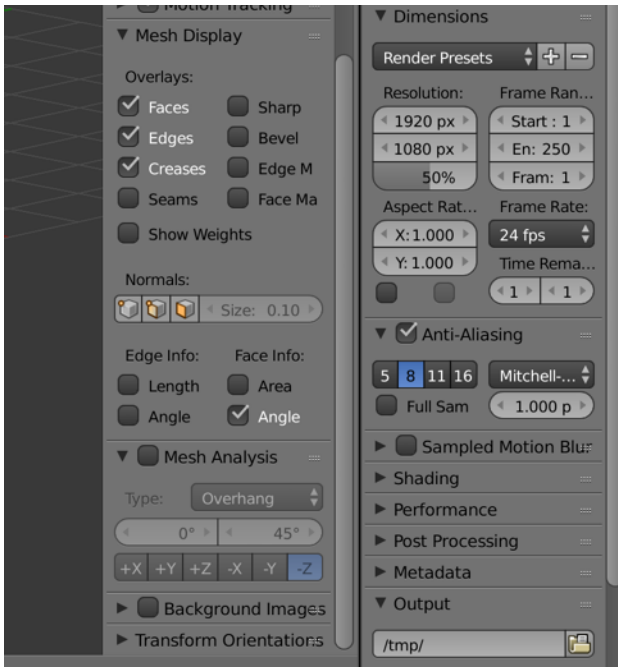
13. Specify transformations numerically. Say you have a smaller object hidden inside a larger object, and you want to edit it without moving to a different layer. You might give the keyboard sequence, in Object mode, 'g + z + (some value)', plus acceptance with Enter, which would pop the object vertically an exact numerical distance. Then after examining it, or even modifying it in Edit mode before returning to Object mode, you can give the reverse command, 'g + z + (negative some value)', returning it precisely to its former position. Exact numerical transformations also work with scale, 's', and rotate, 'r', and often prove useful.



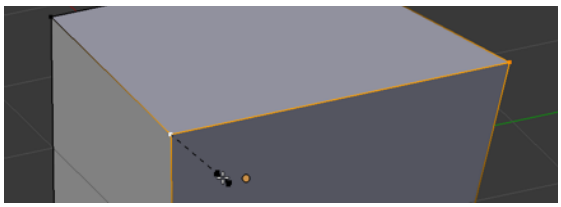
14. Copy between files. The formal way to move some objects from one Blender file to another is with the Append command, where objects are selected from a manifest and imported or 'appended' to a different scene. But a more straightforward way is to have two instantiations of Blender running at the same time, and simply copy and paste whatever is needed from one scene to the other. (Only works in Object mode, and the target object must be selected.)

Copied selected objects to buffer

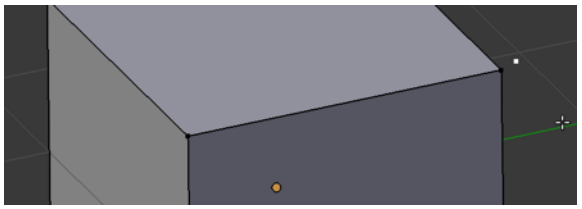
15. Use the Number Panel. The orange arrow right is pointing at the Number panel, presence of which is usually desired, and can be toggled with the ‘n’ key. The green arrow is pointing at the Angle checkbox, which shows face angles when in face selection mode.

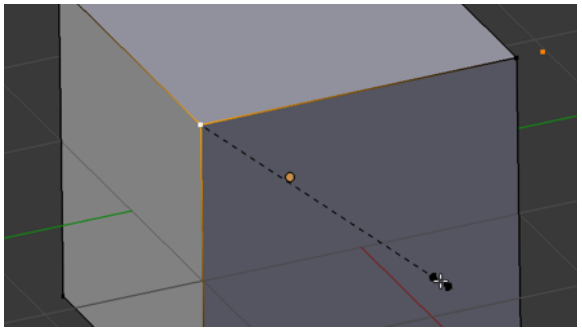


16. Know how to extend an edge. The top icon shown right is the Pivot Center icon. The mode shown selected is Active Element, the correct choice for the next three pics. In the top pic a corner vertex is selected. In the middle pic the vertex on the opposite end of the edge is selected. With two selected, a direction is established. In the third pic, ‘s’ is pressed, and mouse movement scales the edge, extending it or contracting it according to the defined direction. Usually used on edges, it is also good on any line.

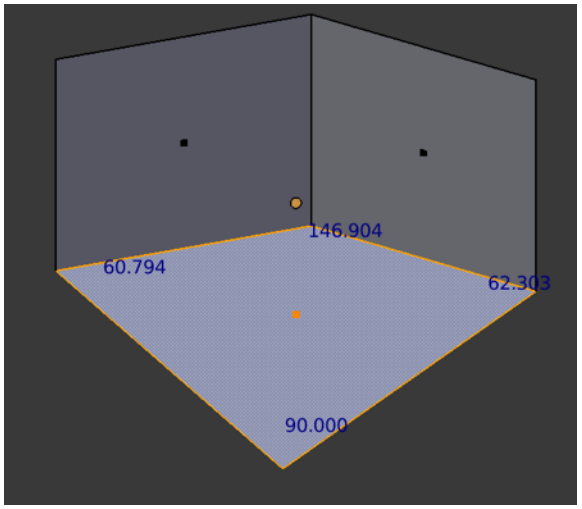


17. Create linear and planar geometry. A variation on the last set of pics. In the first of three, after selecting the first vertex, Shift +‘d’ is pressed, duplicating the vertex and leaving it floating in space, at the whim of mouse movement until pressing Esc snaps it back to the vertex from which it was created. Then in the middle pic Shift is held while the other corner vertex is selected. In the third pic ‘s’ is pressed again, and pulling the handle causes the floating vertex to travel along the exact direction defined by the edge, as before, but now creating new geometry. This trick is helpful when working with a single element, when a scaffold of some kind needs to be created.

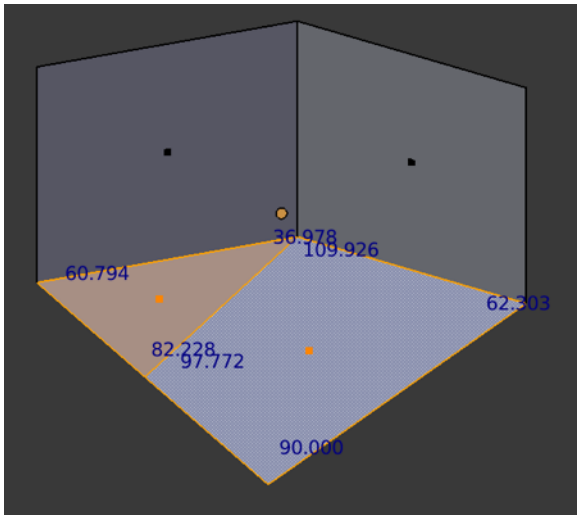




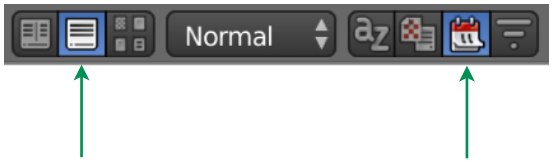
18. Manipulate vertices with the Knife tool. In the view at right we are looking at the inside corner of an element, with blue the floor. The 146 degree angle needs to be reduced, but there are no convenient edges available for vertices to slide along. In the bottom pic, the ‘k’ key has been pressed, invoking the knife tool. It is snapped first to the nearer edge (green box), then stretched along the floor to the opposite vertex, snapping there, awaiting an Enter press to finish the command.



Following on the two preceeding pics, the view right shows the newly created edge. The procedure described in number 16 above can be used to push the 146 degree corner out by scaling its vertex along the new edge. After the operation is finished, and the angle is reduced, the 82.228 vertex is merged into the 60.794 vertex, and the floor becomes a single face again.



19. Make the file browser show a timestamped sort. A sort according to timestamp is the most natural for me, but Blender does not show it by default. (There is, however, an Add-on, if you want to go that route.) Each time I open the file browser, whether to open a file, save one, or review the chronology, I must select two icons, shown right, to get the file sort I want to have. Not an annoyance, just something to remember.



20. Understand how scaling works in Object mode. Scaling an object in Object mode is confusing and misleading, because it doesn't happen. That is, any scaling done in Object mode is only apparent; it has no consequences in terms of actual distances. When entering or re-entering Edit mode, no sizes have been altered. If it is desired to change any lengths in a model, it should be done in Edit mode.