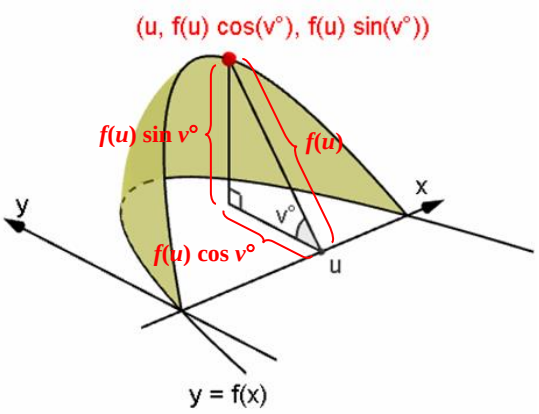
Task 11 Surface of Revolution

1. Open a new window (**Ctrl+N**). In the Input Bar, enter
   `x (3 − x)`
   to draw the graph of the function $f(x) = x\,(3 - x)$.

2. Create a slider *t* which takes the value from 0 to 360, with an increment 1. Colour it in red.

3. Open the 3D Graphics view. In the Input Bar, enter
   `Surface[u, f(u) cos(v°), f(u) sin(v°), u, 0, 3, v, 0, t]`
   to generate the surface of revolution of the graph of $y = f(x)$ about the *x*-axis. See the figure for an illustration of the parametric equation of the surface.



4. Right-click on the surface and choose "Properties". In the "Style" tab set the "Level of Detail" to 10.

5. Drag the slider *t* to generate the surface of revolution.

6. If an error occurs at $t = 0$, right-click the surface and choose "Properties". In the "Advanced" tab enter
   `t > 0`
   in the "Condition to Show" field.

7. In the Input Bar enter
   `Curve[u, f(u) cos(t°), f(u) sin(t°), u, 0, 3]`
   to add the "boundary" curve of the surface.