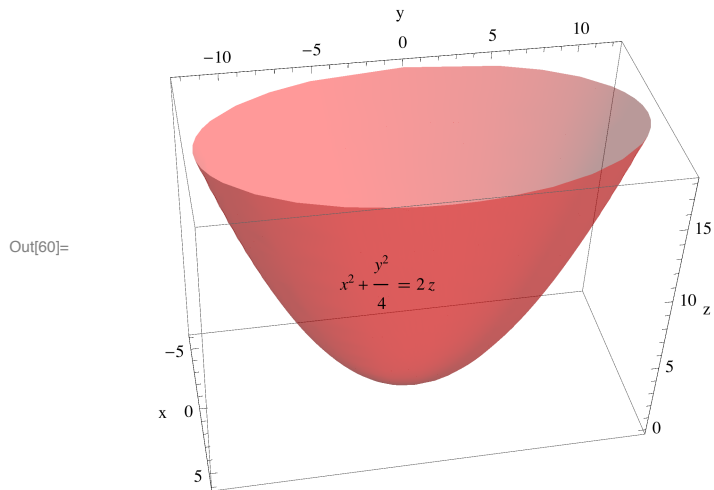


```
In[1]:= a = 1;
        b = 2;
```

```
In[59]:= QPE = ParametricPlot3D[{a u Cos[v], b u Sin[v], u^2 / 2},
                               {u, 0, 6}, {v, 0, 2 Pi}, PlotStyle -> {Red, Opacity[0.4]},
                               Mesh -> None, AspectRatio -> Automatic, AxesLabel -> {"x", "y", "z"}};
```

```
In[28]:= TxtPE = Graphics3D[Text[ $\frac{x^2}{a^2} + \frac{y^2}{b^2} == 2 z$ , {-1, -1.5, 7}]];
```

```
In[60]:= Show[QPE, TxtPE]
```



```
In[50]:= h = 10;
```

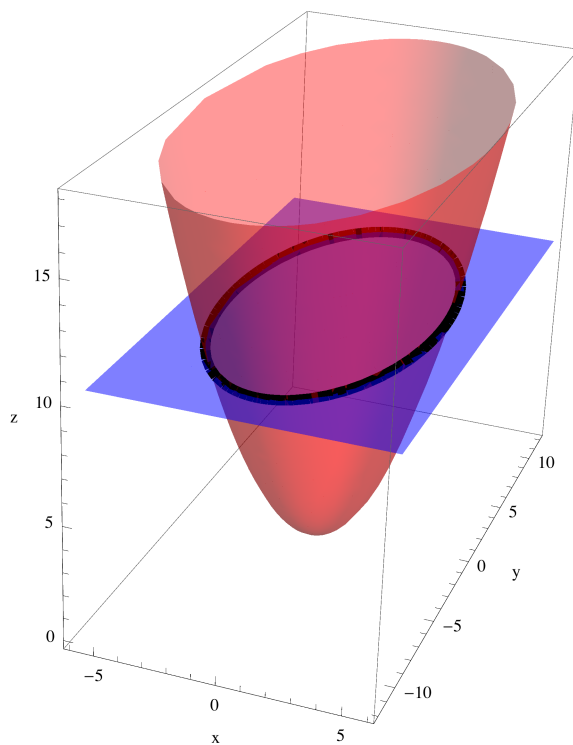
```
In[62]:= PlanOriz = ParametricPlot3D[{x, y, h}, {x, a - 7, a + 7},
                                       {y, -b - 9, b + 9}, PlotStyle -> {Blue, Opacity[0.5]}, Mesh -> None];
```

```
In[56]:= u0 =  $\sqrt{2 h}$  ;
```

```
In[63]:= CurbInt = ParametricPlot3D[{a u0 Cos[v], b u0 Sin[v], u0^2 / 2},
                                       {v, 0, 2 Pi}, PlotStyle -> {Black, Thickness[0.02]}};
```

```
In[64]:= (* PENTRU CURBA DE INTERSECTIE: *)
Show[QPE, PlanOriz, CurbInt]
```

Out[64]=



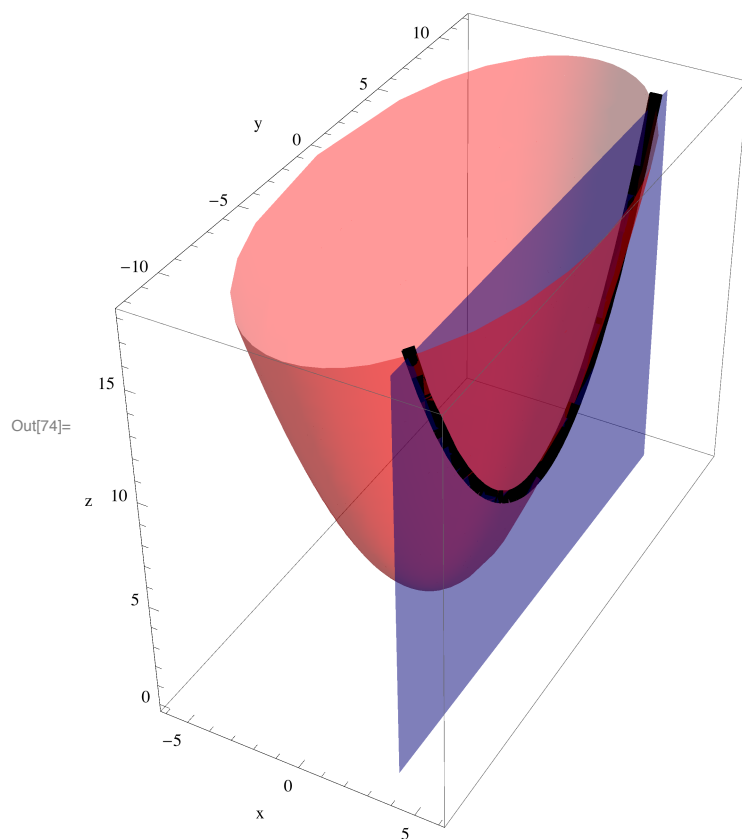
```
In[65]:= h = 3.5;
```

```
In[73]:= PlanVert = ParametricPlot3D[{h, y, z}, {z, -0.3, 18},
    {y, -b - 9, b + 9}, PlotStyle -> {Blue, Opacity[0.5]}, Mesh -> None];
```

```
In[67]:= u0 =  $\frac{h}{a \cos[v]}$ ;;
```

```
CurbInt1 = ParametricPlot3D[{a u0 Cos[v], b u0 Sin[v], u0^2 / 2},
    {v, 0, 2 Pi}, PlotStyle -> {Black, Thickness[0.02]}];
```

```
(* PENTRU CURBA DE INTERSECTIE: *)
Show[QPE, PlanVert, CurbInt1]
```



```
(* ALT PLAN vertical DE INTERSECTIE*)
```

```
In[75]:= v0 = Pi / 4;
```

```
In[83]:= PlanVert1 = ParametricPlot3D[{a u Cos[v0], b u Sin[v0], z},
  {u, -6, 6}, {z, -1, 18}, PlotStyle -> {Blue, Opacity[0.5]}, Mesh -> None];
```

```
In[81]:= CurbInt2 = ParametricPlot3D[{a u Cos[v0], b u Sin[v0], u^2 / 2},
  {u, -6, 6}, PlotStyle -> {Black, Thickness[0.02]}};
```

```
In[84]:= (* PENTRU CURBA DE INTERSECTIE: *)  
Show[QPE, PlanVert1, CurbInt2]
```

