Reprodução das imagens das páginas 1 a 6

(Debug) In[ ]:=
```
v[x_, y_] := {5, 9.8 × 5 - y}
```

(Debug) In[ ]:=
```
campo = VectorPlot[v[x, y], {x, 0, 10},
    {y, 0, 60}, VectorStyle → {Arrowheads[0], Thin, Black},
    AspectRatio → 1 / 2, PlotLabel → "Mapa de inclinações de v por t"];
```

(Debug) In[ ]:=
```
v[x, y][[2]] / v[x, y][[1]]
```

(Debug) Out[ ]= $\frac{1}{5}(49. - y)$

Velocidade na qual a aceleração do corpo é nula. Ou seja, $\frac{dv}{dt} = g - \frac{\gamma v}{m} = 0$

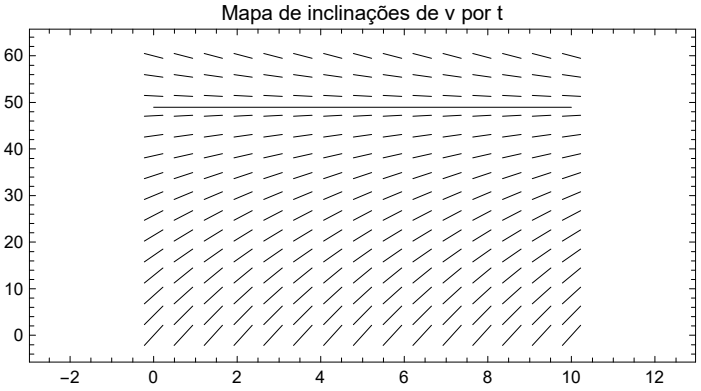
(Debug) In[ ]:=
```
Solve[% == 0, y]
```

(Debug) Out[ ]= {{y → 49.}}

(Debug) In[ ]:=
```
dvdtNulo = Plot[{49}, {x, 0, 10}, PlotStyle → {Thin, Black}];
```

(Debug) In[ ]:=
```
Show[campo, dvdtNulo]
```

(Debug) Out[ ]=



Ratos do campo e corujas

$$\frac{dp}{dt} = 0.5\,p - 30 \times 15$$

(Debug) In[ ]:=
```
ω[x_, y_] := {1, .5 y - 450}
```

(Debug) In[ ]:=
```
ratosTempo = VectorPlot[ω[x, y], {x, 0, 5}, {y, 800, 1000},
    VectorStyle → {Arrowheads[0]}, AspectRatio → 1 / 10];
```

(Debug) In[ ]:=
```
Solve[ω[x, y][[2]] / ω[x, y][[1]] == 0, y]
```

(Debug) Out[ ]= {{y → 900.}}

(Debug) In[ ]:=
```
equil = Plot[900, {x, 0, 5}, PlotStyle → {Thin, Black}];
```

(Debug) In[ ]:=
```
Show[ContourPlot[y == 0, {x, -1, 6}, {y, 790, 1000},
  AspectRatio → 1 / 2, ContourStyle → {Black}], ratosTempo, equil]
```

(Debug) Out[ ]=