TENSION VARIABLE DE CUERDAS
JRW

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Manipulate[
 Module[{A1, A2},
  A1 = ArcTan[x, y];
  A2 = ArcTan[10 - x, y];
  Graphics[{Line[{{0, 5}, {x , 5 - y}}],
    Line[{{x , 5 - y}, {10 , 5}}], Text["T₁", Mean@{{0, 5}, {x , 5 - y}} - {.2, .2}],
    Text["T₂", Mean@{{x , 5 - y}, {10 , 5}} + {.2, -.2}],
    Line[{{x , 5 - y}, {x , 4 - y}}], Disk[{x , 4 - y}, .1 m1], Arrowheads[.02],
    Arrow[Table[.75 {Cos[θ1], Sin[θ1]} + {0, 5}, {θ1, 0, -A1, -.01}]],
    Arrow[Table[.75 {Cos[θ1], Sin[θ1]} + {10, 5}, {θ1, π, π + A2, .01}]],
    Text["θ₁", {Cos[A1 / 2], -Sin[A1 / 2]} + {0, 5}],
    Text["θ₂", {Cos[π + A2 / 2], Sin[π + A2 / 2]} + {10, 5}],
    Dashed, Line[{{0, 5}, .75 {Cos[A1], -Sin[A1]} + {0, 5}}],
    Line[{.75 {Cos[π + A2], Sin[π + A2]} + {10, 5}, {10, 5}}],
    Line[{{0, 5}, {10, 5}}], Dashing[None], Thickness[.01], Line[{{0, 0}, {0, 5}}],
    Line[{{10, 0}, {10, 5}}]}, PlotRange → {{-.3, 10.3}, {0, 5.1}},
   PlotLabel → Row[{"T₁ = ", 9.81 m1 / (Cos[A1] Sin[A2] / (Cos[A2]) + Sin[A1]),
      " N", "  |  ", "T₂ = ", 9.81 m1 / (Cos[A1] Sin[A2] / (Cos[A2]) + Sin[A1])
       Cos[A1] / Cos[A2], " N"}], ImageSize → {500, 300}]
 ],
 {{m1, 1, "masa en Kg"}, 1., 5., Appearance → "Labeled"},
 {{x, 5., "distancia en x"}, .1, 10., Appearance → "Labeled"},
 {{y, 2., "distancia en y"}, .1, 2.5, Appearance → "Labeled"}]
```