

Flesso a tangente verticale

File scaricato da - <http://www.extrabyte.info>

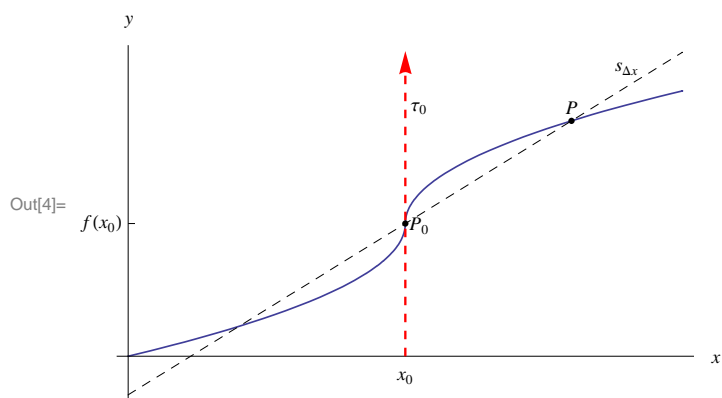
```
In[2]:= f[x_, x0_] := Piecewise[  
  {  
    {1 +  $\sqrt{x - x0}$ , x  $\geq$  x0},  
    {1 -  $\sqrt{x0 - x}$ , x < x0}  
  }  
]
```

```
In[3]:= secante[x_, x0_,  $\Delta$ _] := 1 +  $\frac{1}{\sqrt{\Delta}}$  * (x - x0)
```

```

In[4]:= flex = Plot[
  {f[x, 1], secante[x, 1, 0.6]}, {x, 0, 2},
  AxesLabel -> {"x", "y"},
  PlotStyle -> {
    {Thickness[0.003]},
    {Dashed, RGBColor[0, 0, 0], Thickness[0.001]}
  },
  Ticks -> {
    {
      {1, "x_0"}
    },
    {
      {f[1, 1], "f(x_0)"}
    }
  },
  Epilog -> {
    {
      Dashed,
      RGBColor[1, 0, 0],
      Thickness[0.004],
      Arrow[{{1, 0}, {1, 2.3}}]
    },
    Point[{{1, 1}},
    Point[{{1.6, f[1.6, 1]}},
    Text["P_0", {1.05, f[1, 1]}],
    Text["P", {1.6, f[1.6, 1] + 0.1}],
    Text["s_{\Delta x}", {1.8, 2.2}],
    Text["\tau_0", {1.05, 1.9}]
  }
]

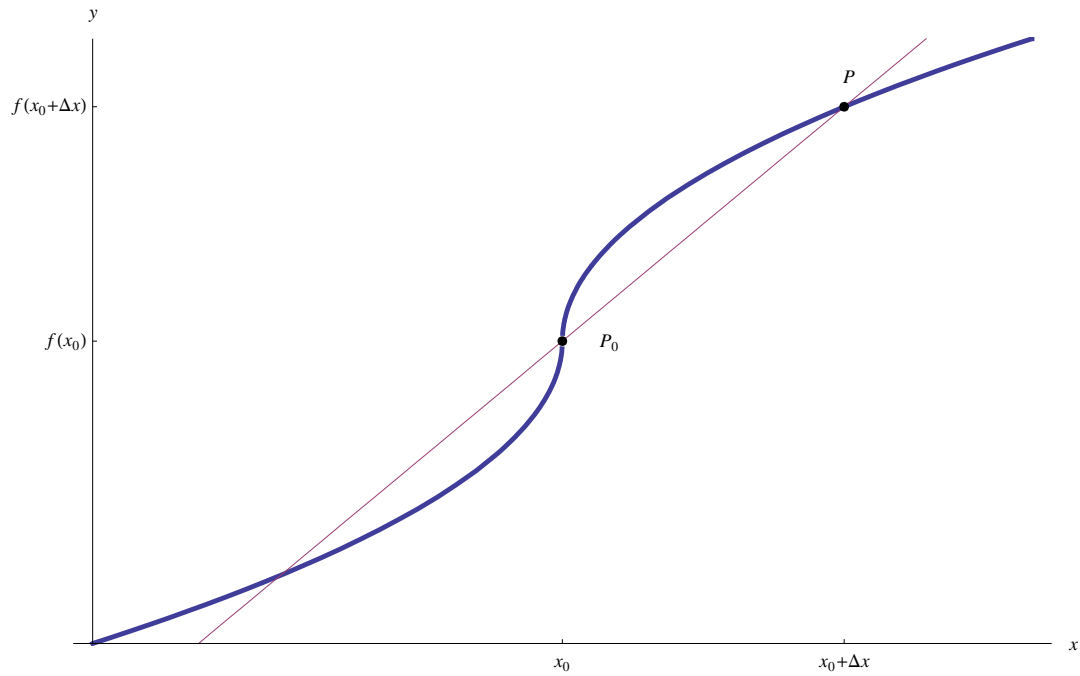
```



```
In[5]:= plot[Δ_] := Plot[
  {f[x, 1], secante[x, 1, Δ]}, {x, 0, 2},
  PlotRange → {0, 2},
  PlotStyle → {
    Thickness[0.005],
    Thickness[0.001]
  },
  ImageSize → {
    500,
    500
  },
  AxesLabel → {"x", "y"},
  Ticks → {
    {
      {1, "x0"},
      {1 + Δ, "x0+Δx"}
    },
    {
      {f[1, 1], "f(x0)"},
      {f[1 + Δ, 1], "f(x0+Δx)"}
    }
  },
  Epilog → {
    {PointSize[0.01], Point[{1, 1}]},
    {PointSize[0.01], Point[{1 + Δ, f[1 + Δ, 1]}]},
    Text["P0", {1.1, f[1, 1]}],
    Text["P", {1.01 + Δ, f[1 + Δ, 1] + 0.1}]
  }
]
```

(*test*)

```
plot[0.6]
```



```
rettatangente = Table[
  plot[Δ], {Δ, 0.6, 10-12, -0.01}
];
```

```
Clear[f, secante]
```

```
f[x_, x0_] := Piecewise[
  {
    {1 - √(x - x0), x ≥ x0},
    {1 + √(x0 - x), x < x0}
  }
]
```

```
secante[x_, x0_, Δ_] := 1 -  $\frac{1}{\sqrt{\Delta}}$  * (x - x0)
```

```

flex1 = Plot[
  {f[x, 1], secante[x, 1, 0.6]}, {x, 0, 2},
  AxesLabel -> {"x", "y"},
  PlotStyle -> {
    {Thickness[0.003]},
    {Dashed, RGBColor[0, 0, 0], Thickness[0.001]}
  },
  Ticks -> {
    {
      {1, "x_0"}
    },
    {
      {f[1, 1], "f(x_0)"}
    }
  },
  Epilog -> {
    {
      Dashed,
      RGBColor[1, 0, 0],
      Thickness[0.004],
      Arrow[{{1, 2.3}, {1, 0}}]
    },
    Point[{{1, 1}},
    Point[{{1.6, f[1.6, 1]}},
    Text["P_0", {1.05, f[1, 1]}],
    Text["P", {1.6, f[1.6, 1] + 0.1}],
    Text["s_{\Delta x}", {1.4, 0.6}],
    Text["\tau_0", {1.05, 1.9}]
  }
]

```

