

Parametric Equations:  $x = 5t - 2$ ,  $y = 3t - 1$

- a) Graph Parametric Equations.
- b) Write the corresponding rectangular equation.

$$x = 5t - 2 \iff x - 2 = 5t \iff t = \frac{x - 2}{5}$$

$$y = 3t - 1 \iff y = 3\left(\frac{x - 2}{5}\right) - 1 \iff y = 3\left(\frac{x - 2}{5}\right) - 1$$

Rectangular Equation:  $y = 3\left(\frac{x - 2}{5}\right) - 1$

## Calculator Input:

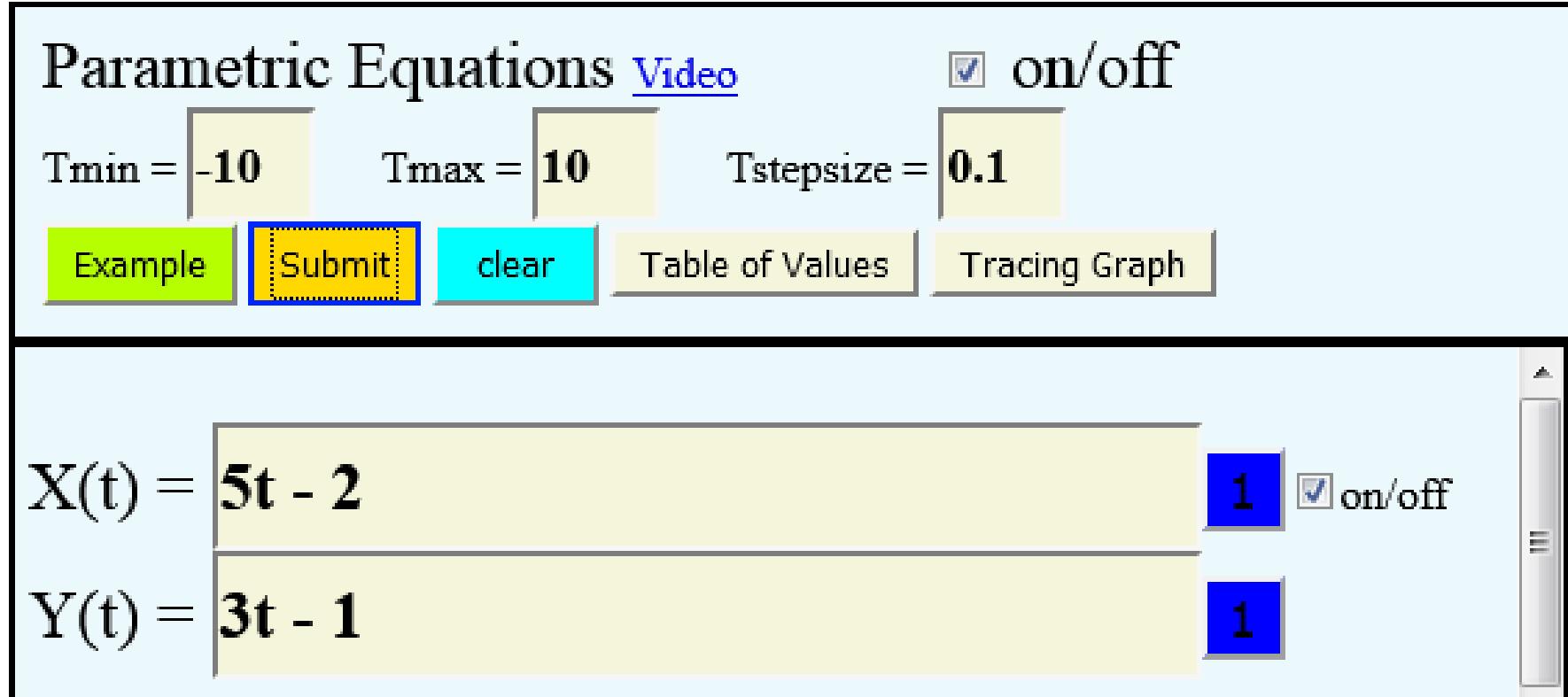
Parametric Equations [Video](#)  on/off

Tmin = **-10**      Tmax = **10**      Tstepsize = **0.1**

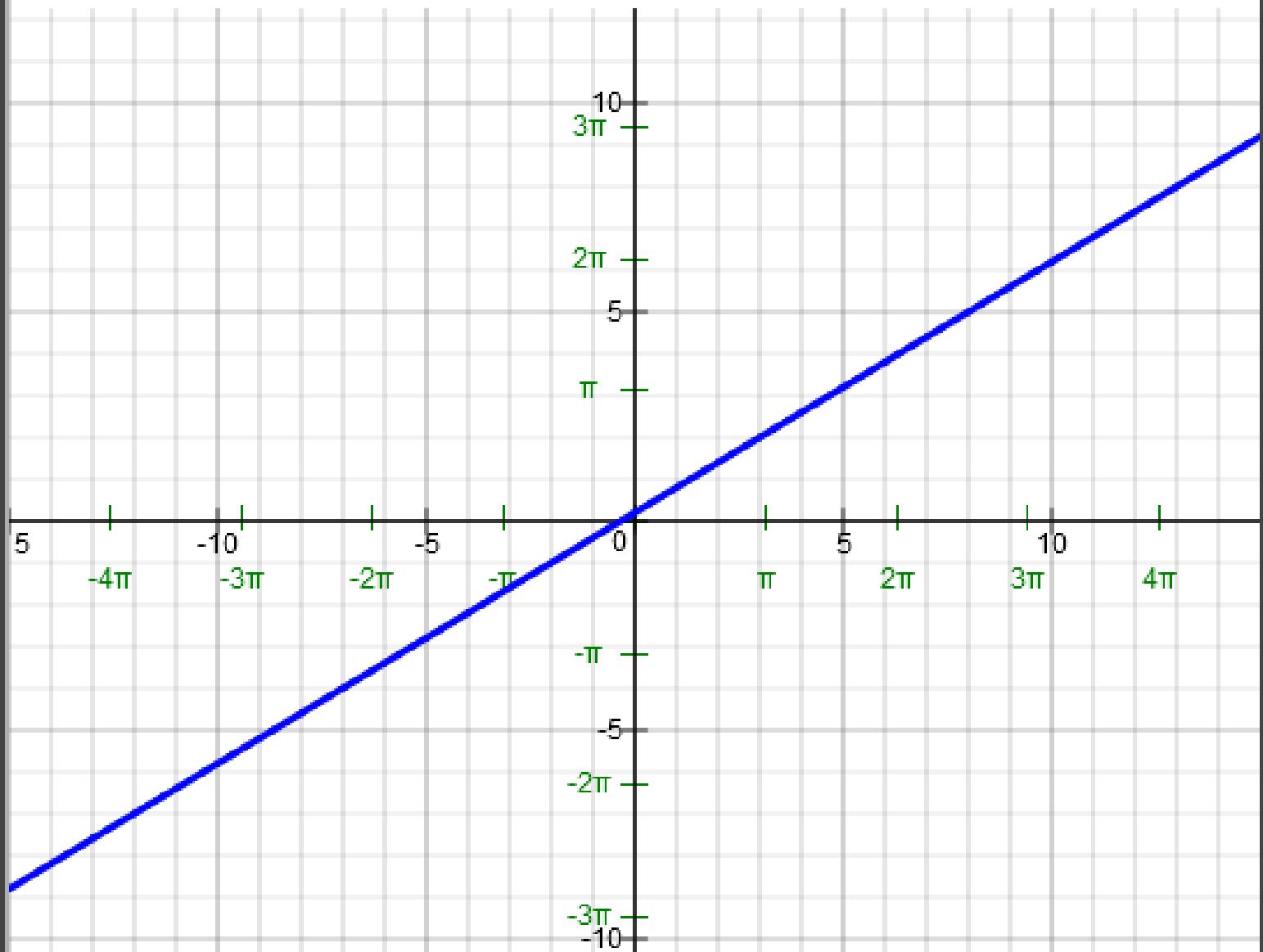
**Example** **Submit** **clear** **Table of Values** **Tracing Graph**

X(t) = **5t - 2**  on/off

Y(t) = **3t - 1**



Parametric Equations:  $x = 5t - 2$ ,  $y = 3t - 1$



Parametric Equations:  $x = 4t - 4$ ,  $y = t^2 + 5$

a) Graph Parametric Equations.

b) Write the corresponding rectangular equation.

$$x = 4t - 4 \iff x + 4 = 4t \iff t = \frac{x + 4}{4}$$

$$y = t^2 + 5 \iff y = \left( \frac{x + 4}{4} \right)^2 + 5$$

Rectangular Equation:  $y = \left( \frac{x + 4}{4} \right)^2 + 5$

## Calculator Input:

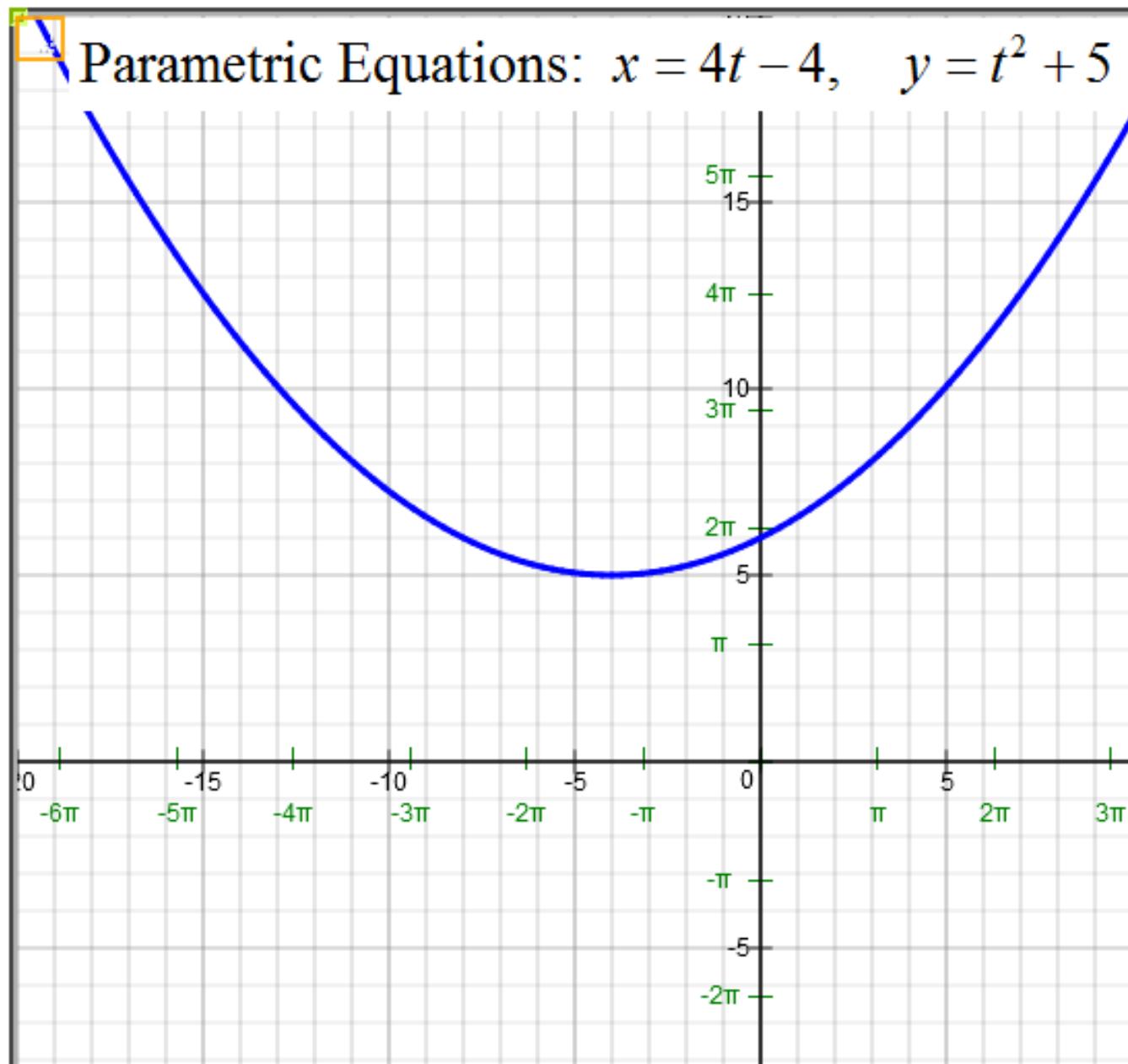
Parametric Equations [Video](#)  on/off

Tmin =  Tmax =  Tstepsize =

[Example](#) [Submit](#) [clear](#) [Table of Values](#) [Tracing Graph](#)

X(t) =    on/off

Y(t) =



Parametric Equations:  $x = 5t^2$ ,  $y = t^3 - 6$

- a) Graph Parametric Equations.
- b) Write the corresponding rectangular equation.

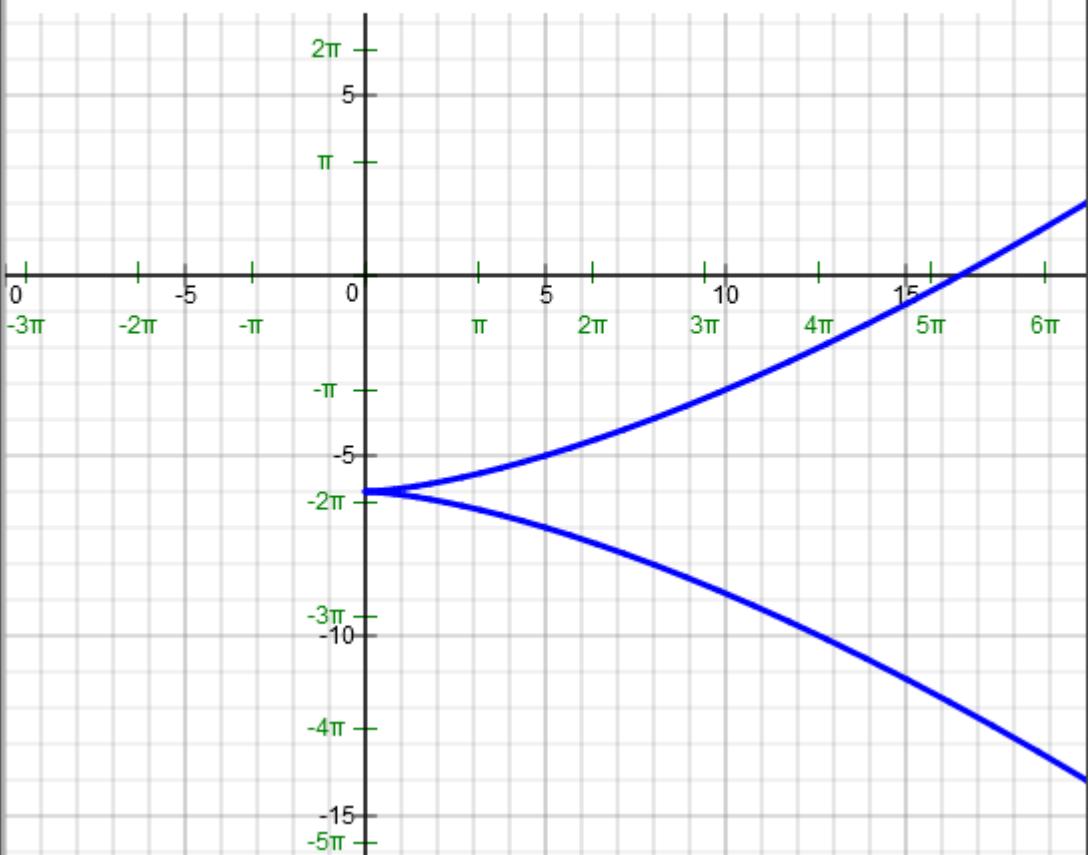
$$x = 5t^2 \iff t^2 = \frac{x}{5} \iff t = \pm\sqrt{\frac{x}{5}} \iff$$

$$y = t^3 - 6 \iff y = \left( \pm\sqrt{\frac{x}{5}} \right)^3 - 6$$

Rectangular Equation:  $y = \left( \pm\sqrt{\frac{x}{5}} \right)^3 - 6$



Parametric Equations:  $x = 5t^2$ ,  $y = t^3 - 6$



Parametric Equations:  $x = \sqrt{t + 4}$ ,  $y = t + 1$

a) Graph Parametric Equations.

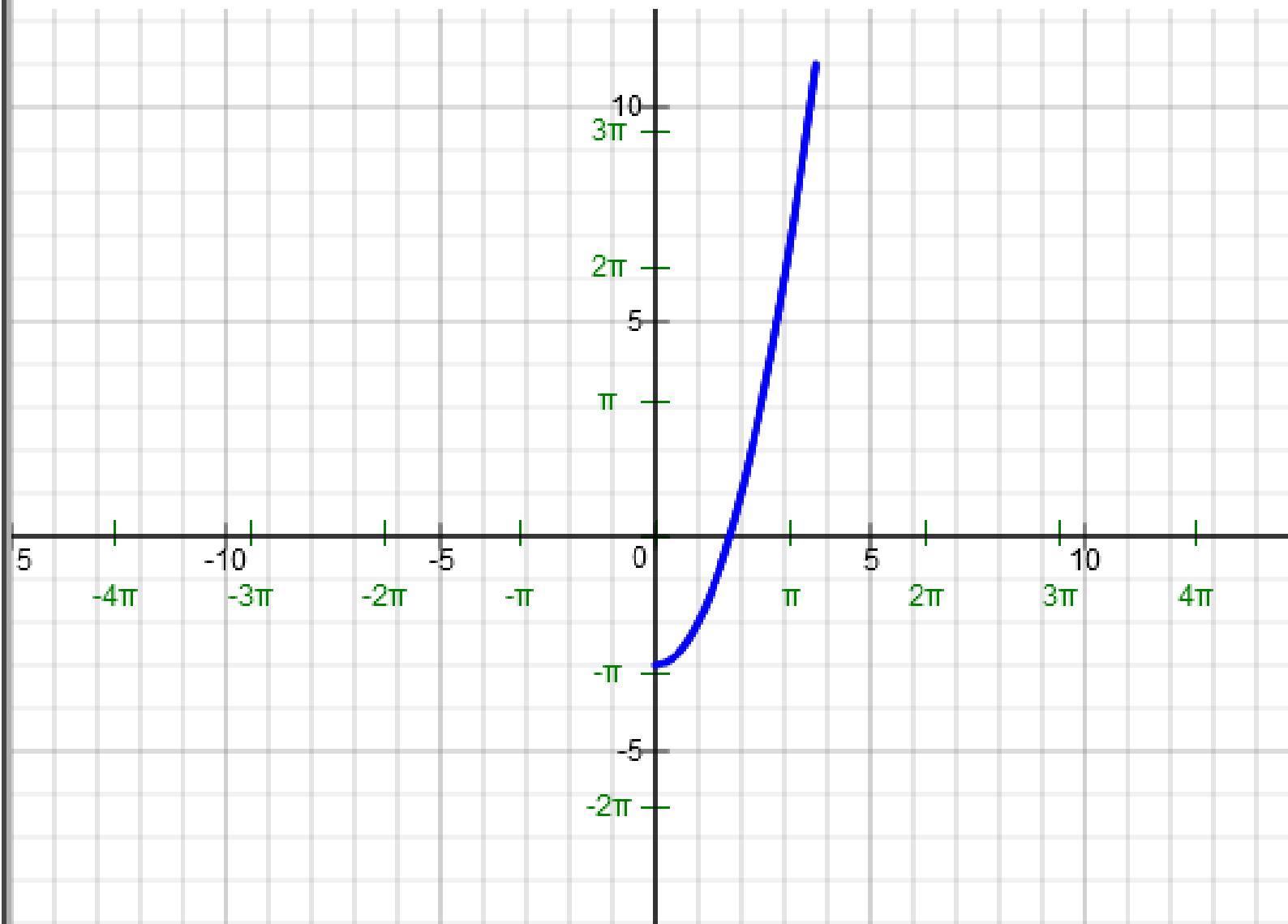
b) Write the corresponding rectangular equation.

$$x = \sqrt{t + 4} \iff (x)^2 = (\sqrt{t + 4})^2 \iff x^2 = t + 4 \iff t = x^2 - 4$$

$$y = t + 1 \iff y = x^2 - 4 + 1 \iff y = x^2 - 3$$

Rectangular Equation:  $y = x^2 - 3$

 Parametric Equations:  $x = \sqrt{t + 4}$ ,  $y = t + 1$



Parametric Equations:  $x = t + 7$ ,  $y = \frac{t}{t - 4}$

- a) Graph Parametric Equations.
- b) Write the corresponding rectangular equation.

$$x = t + 7 \iff t = 7 - x$$

$$y = \frac{t}{t - 4} \iff y = \frac{(7 - x)}{(7 - x) - 4} \iff y = \frac{7 - x}{3 - x}$$

Rectangular Equation:  $y = \frac{7 - x}{3 - x}$

## Calculator Input:

Parametric Equations [Video](#)  on/off

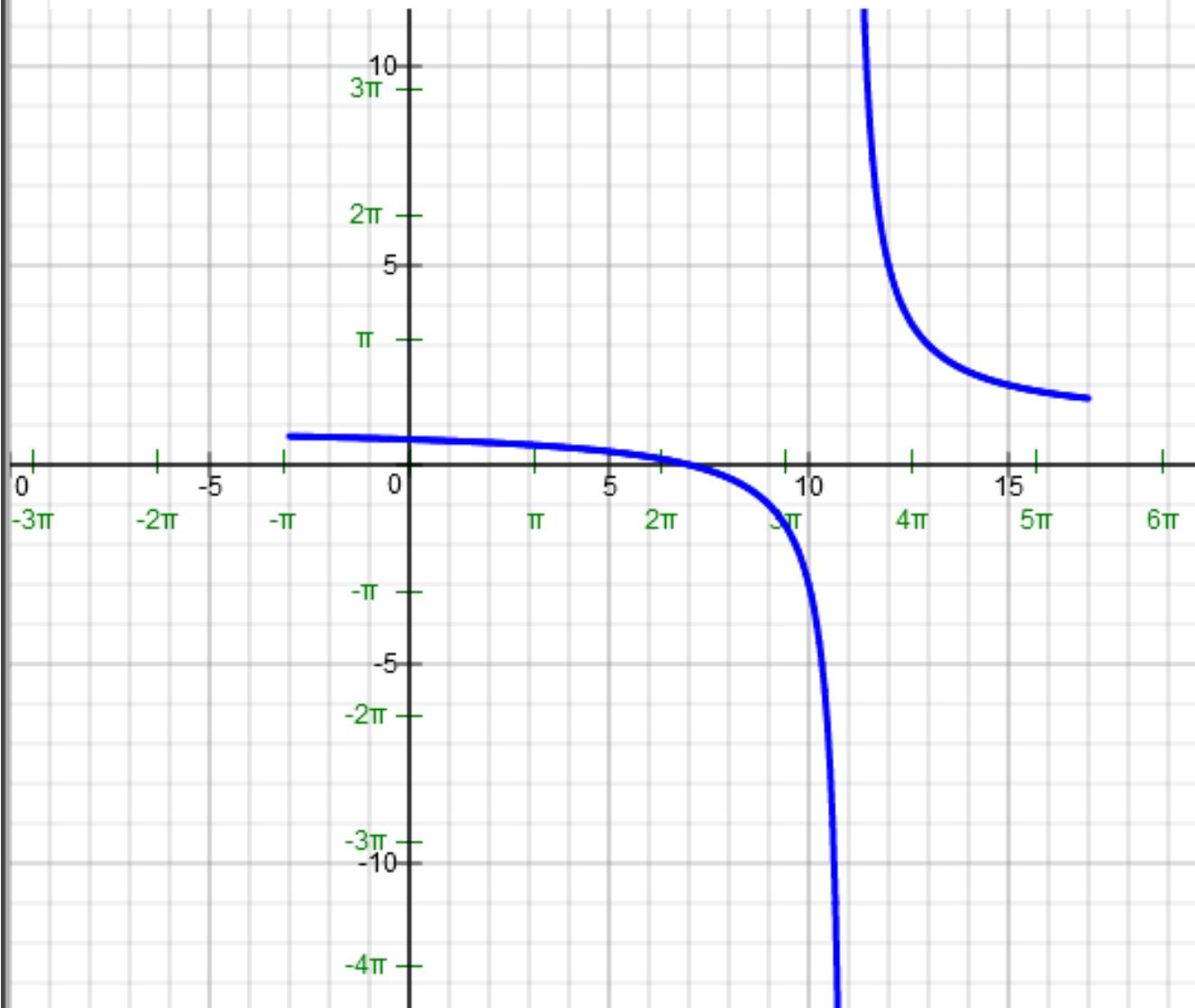
Tmin = **-10**      Tmax = **10**      Tstepsize = **0.1**

**Example** **Submit** **clear** **Table of Values** **Tracing Graph**

X(t) =  **$t + 7$**  **1**  on/off

Y(t) =  **$t/(t - 4)$**  **1**

Parametric Equations:  $x = t + 7$ ,  $y = \frac{t}{t - 4}$



Parametric Equations:  $x = 5t + 4$ ,  $y = |3t - 2|$

- a) Graph Parametric Equations.
- b) Write the corresponding rectangular equation.

$$x = 5t + 4 \iff x - 4 = 5t \iff t = \frac{x - 4}{5}$$

$$y = |3t - 2| \iff y = \left| 3\left(\frac{x - 4}{5}\right) - 2 \right|$$

Rectangular Equation:  $y = \left| 3\left(\frac{x - 4}{5}\right) - 2 \right|$

## Calculator Input:

Parametric Equations [Video](#)  on/off

Tmin =  Tmax =  Tstepsize =

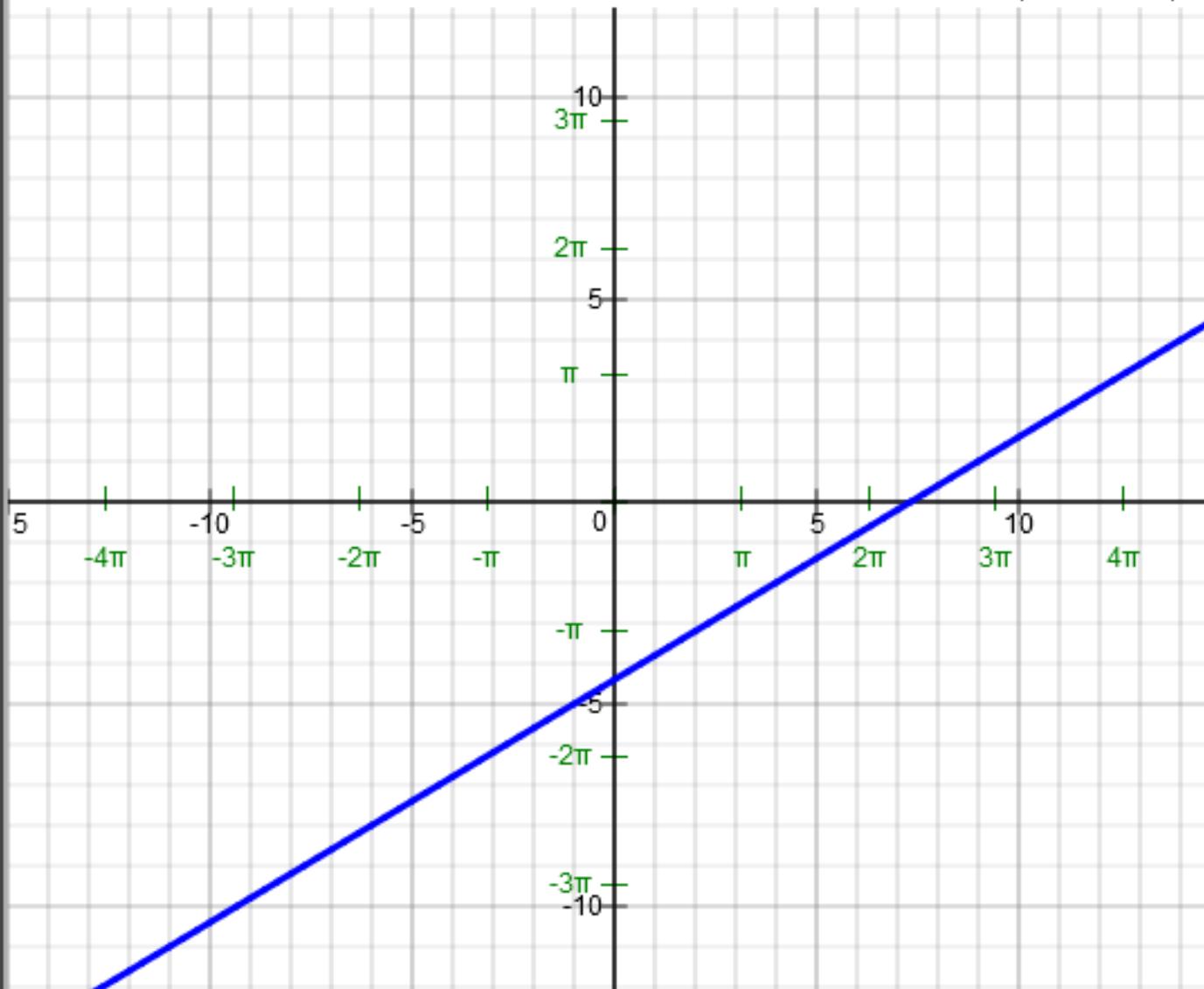
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X(t) =    on/off

Y(t) =



Parametric Equations:  $x = 5t + 4$ ,  $y = |3t - 2|$



Parametric Equations:  $x = e^t - 4$ ,  $y = e^{3t} + 1$

- a) Graph Parametric Equations.
- b) Write the corresponding rectangular equation.

$$x = e^t - 4 \iff x + 4 = e^t$$

$$y = e^{3t} + 1 \iff y = (e^t)^3 + 1 \iff y = (x + 4)^3 + 1$$

Rectangular Equation:  $y = (x + 4)^3 + 1$

# Calculator Input

Parametric Equations [Video](#)

on/off

Tmin =

Tmax =

Tstepsize =

**Example**

**Submit**

**clear**

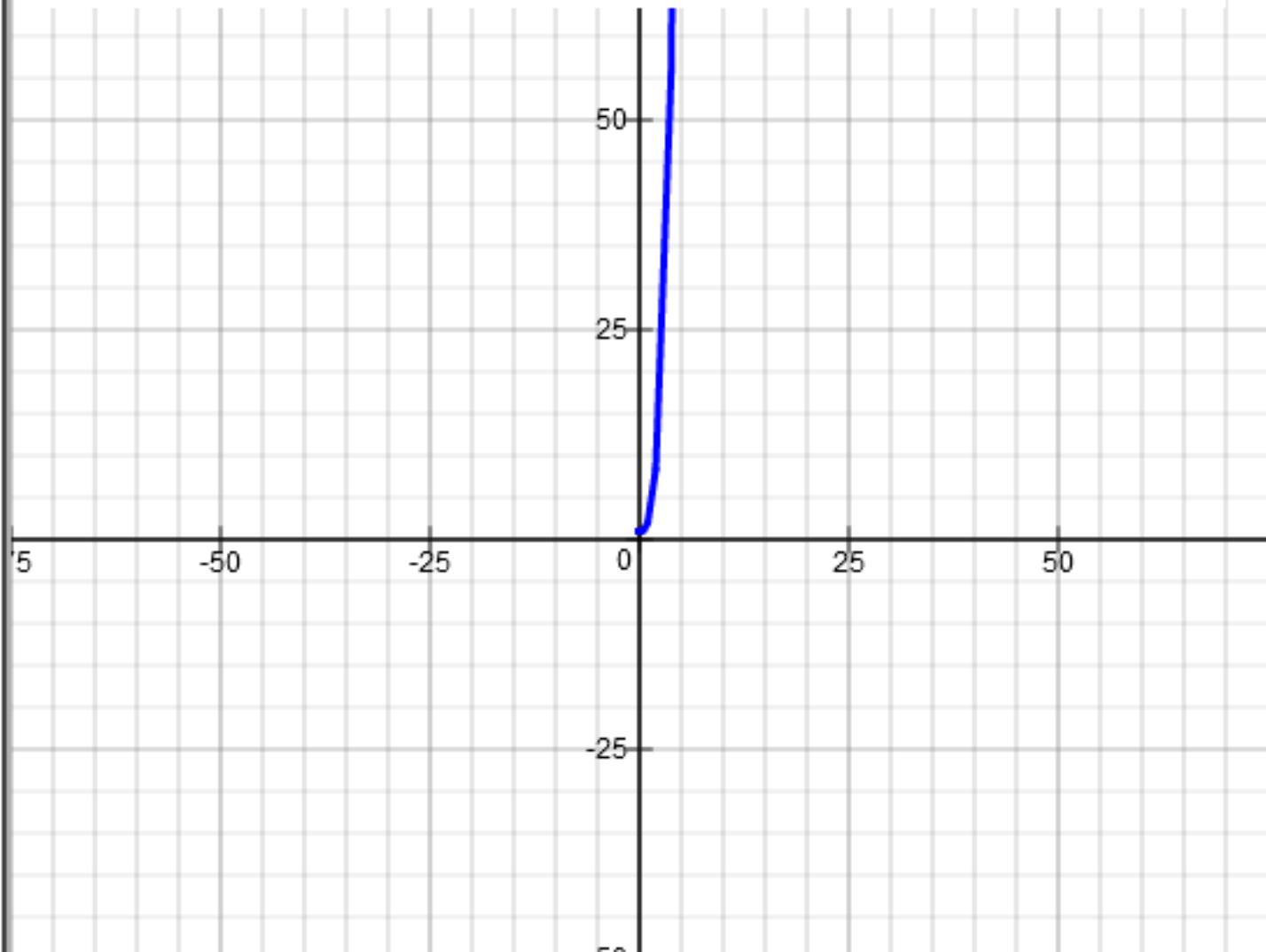
**Table of Values**

**Tracing Graph**

X(t) =   
  on/off

Y(t) =

Parametric Equations:  $x = e^t - 4$ ,  $y = e^{3t} + 1$



Parametric Equations:  $x = \sec t$ ,  $y = 5 \tan t$

- a) Graph Parametric Equations.
- b) Write the corresponding rectangular equation.

$$x = \sec t$$

$$y = 5 \tan t \iff \tan t = \frac{y}{5}$$

From Trigonometric Identity:  $\sec^2 x - \tan^2 x = 1$

$$\sec^2 x - \tan^2 x = 1 \iff x^2 - \left(\frac{y}{5}\right)^2 = 1$$

Rectangular Equation:  $x^2 - \left(\frac{y}{5}\right)^2 = 1$

# Calculator Input

Parametric Equations [Video](#)

Tmin =       Tmax =       Tstepsize =

on/off

**Example**

**Submit**

**clear**

**Table of Values**

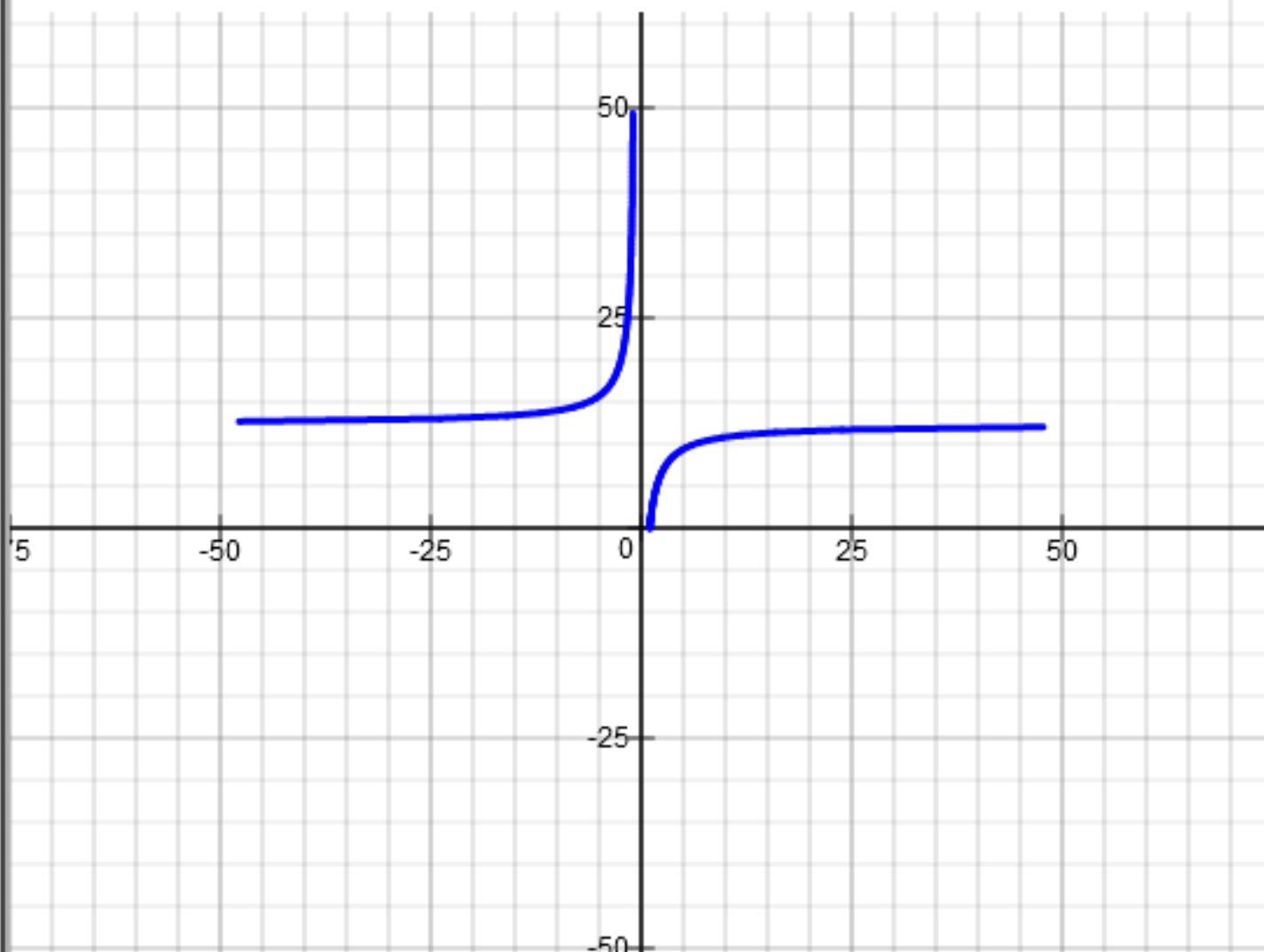
**Tracing Graph**

X(t) =    on/off

Y(t) =



Parametric Equations:  $x = \sec t$ ,  $y = 5 \tan t$



Parametric Equations:  $x = 2 + 2\cos t$ ,  $y = 3 + \sin t$

- Graph Parametric Equations.
- Write the corresponding rectangular equation.

## Calculator Input

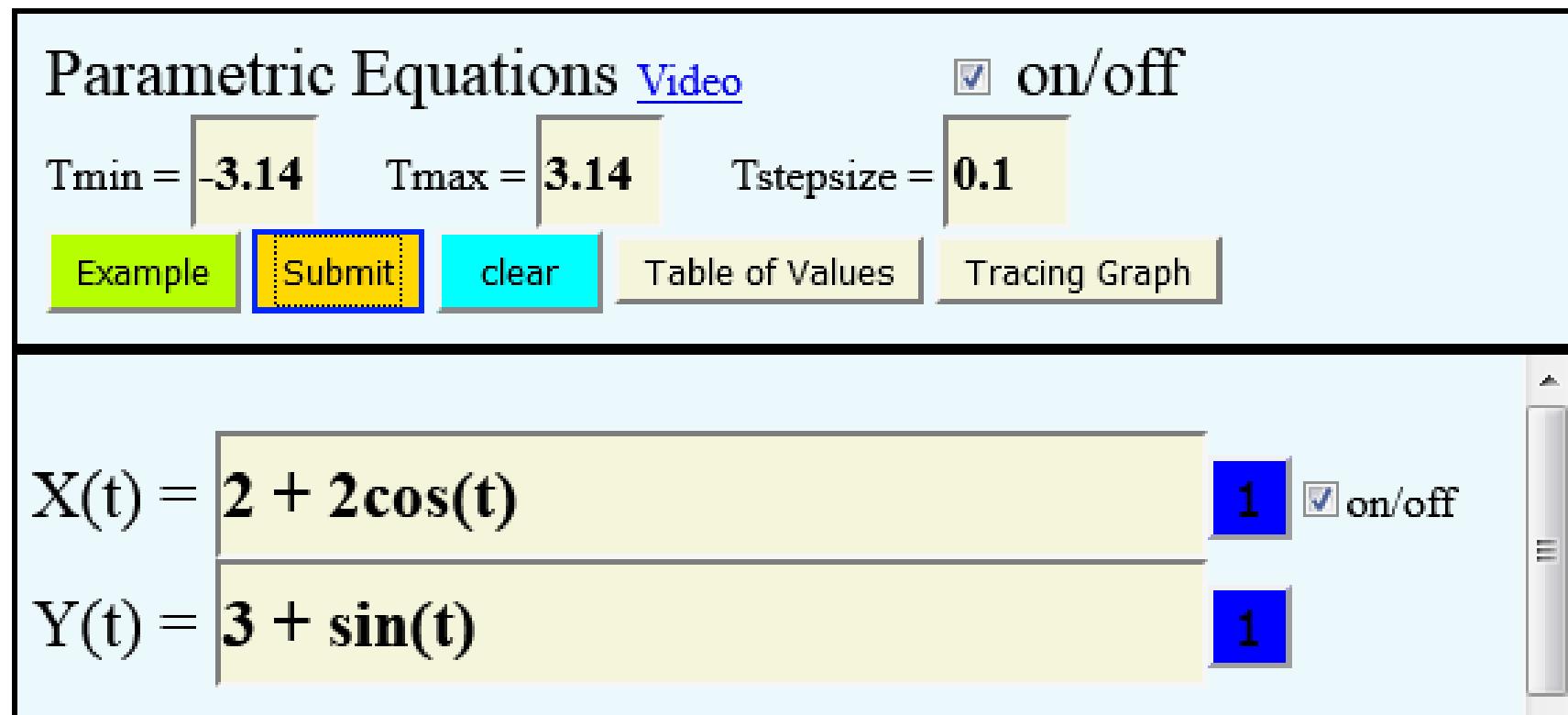
Parametric Equations [Video](#)  on/off

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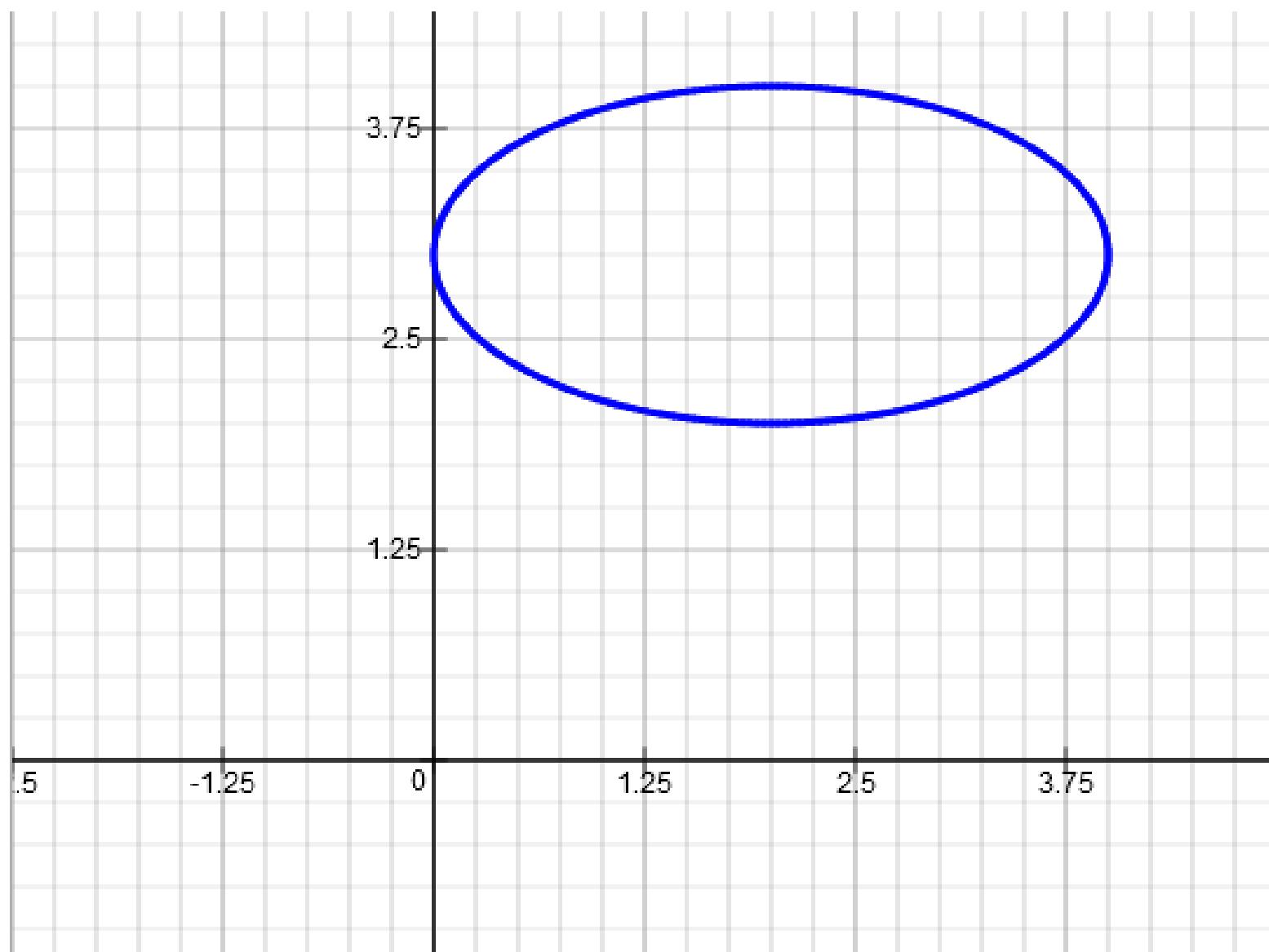
**Example** **Submit** **clear** **Table of Values** **Tracing Graph**

X(t) =  **$2 + 2\cos(t)$**   1  on/off

Y(t) =  **$3 + \sin(t)$**   1



Parametric Equations:  $x = 2 + 2 \cos t$ ,  $y = 3 + \sin t$



Parametric Equations:  $x = t^2$ ,  $y = 4 \ln t$

- a) Graph Parametric Equations.
- b) Write the corresponding rectangular equation.

$$x = t^2 \iff t = \pm\sqrt{x}$$

$$y = 4 \ln t \iff y = 4 \ln(\sqrt{x})$$

Rectangular Equation:  $y = 4 \ln(\sqrt{x})$

## Calculator Input:

Parametric Equations [Video](#)  on/off

Tmin =  Tmax =  Tstepsize =

**Example** **Submit** **clear** **Table of Values** **Tracing Graph**

X(t) =    on/off

Y(t) =

Parametric Equations:  $x = t^2$ ,  $y = 4 \ln t$

