

GRADUATE-POST GRADUATE-RESEARCH SCHOLAR

MECHANICAL EXPRESSIONS

EXPORT OUTPUT FILES IMPLICIT EQUATION-PARAMETRIC EQUATION

SCALABLE VECTOR GRAPHICS

WINDOWS ENHANCED METAFILE

IMAGE-ANIMATION-IMPLICIT EQUATION

ENCAPSULATED POST SCRIPT

PARAMETRIC EQUATION

$$z_4 \Rightarrow \begin{cases} X = t \cdot \cos\left(\frac{180 \cdot \theta}{\pi}\right) \\ Y = t \cdot \sin\left(\frac{180 \cdot \theta}{\pi}\right) \end{cases}$$

**Variables**  

Name	Value	Locked
F[0]	1	-
G[0]	1	-
mass	1	-
$\theta$	0.66601764	-
$\tau$	0	-
$\omega$	1	-

**Mechanics Out...**  
 Symbolic Real

Vel  $\Rightarrow \begin{pmatrix} -1.1314395 \\ 0.74639042 \end{pmatrix}$   
 Acc  $\Rightarrow \begin{pmatrix} -2.959 \\ 1.373 \end{pmatrix}$

HTML-HTML5/JAVA SCRIPT APP-LUA APP-OS X DASHBOARD WIDGET-MAPLE-MATHEMATICA-SOURCE CODE-MAXIMA INPUT

$$e + \frac{d(-e+u_3)}{-c+d}$$

$$d \cdot \left[ \frac{-d_2(-e+a \cdot \cos(\theta))}{2 \cdot d_0^2} + \frac{a(-b^2+d_0^2+(-c+d)^2) \sin(\theta)}{2 \cdot d_0^2} \right] \cdot \frac{1}{-c+d}$$

$$d_0 = \sqrt{a^2 + e^2 - 2 \cdot a \cdot e \cdot \cos(\theta)}$$

$$d_2 = \sqrt{b+c-d+d_0} \cdot \sqrt{b-c+d+d_0} \cdot \sqrt{b-c+d-d_0} \cdot \sqrt{b-c+d+d_0}$$

$$u_3 = e + \frac{(-b^2+d_0^2+(-c+d)^2) \cdot (-e+a \cdot \cos(\theta))}{2 \cdot d_0^2} + \frac{a \cdot d_2 \cdot \sin(\theta)}{2 \cdot d_0^2}$$

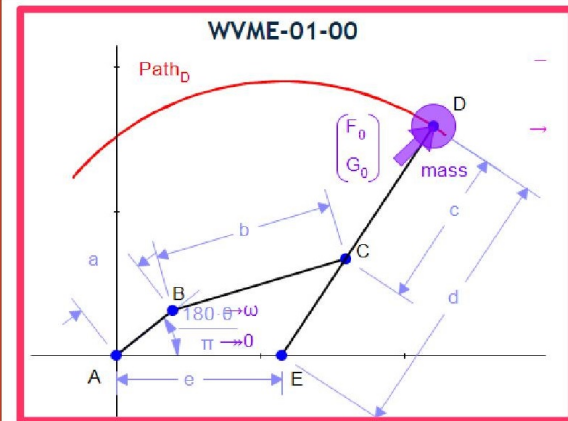
$\omega$  is the velocity of crank AB applied to  $\theta$

Point D has a mass and an Applied Force F[0], G[0]

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$\omega$	1	-

Vel  $\Rightarrow \begin{pmatrix} -1.1314395 \\ 0.74639042 \end{pmatrix}$   
 Acc  $\Rightarrow \begin{pmatrix} -2.9595653 \\ 1.3731586 \end{pmatrix}$



$$t \left[ \theta + \frac{(a^2 - b^2 + a^2 + (-c+d)^2 - 2 \cdot a \cdot e \cdot \cos(\theta)) \cdot (-e + a \cdot \cos(\theta))}{2 \cdot (a^2 + e^2 - 2 \cdot a \cdot e \cdot \cos(\theta))} + \frac{a \cdot \sqrt{b+c-d+d_0} \cdot \sqrt{b-c+d+d_0} \cdot \sqrt{b-c+d-d_0} \cdot \sqrt{b-c+d+d_0} \cdot \sqrt{a^2 + e^2 - 2 \cdot a \cdot e \cdot \cos(\theta)}}{2 \cdot (a^2 + e^2 - 2 \cdot a \cdot e \cdot \cos(\theta))} \right] \cdot \cos(\theta) + a \cdot \cos(\theta)$$

$$+ \left[ \frac{(-b+c-d+d_0) \cdot \sqrt{a^2 + e^2 - 2 \cdot a \cdot e \cdot \cos(\theta)} \cdot \sqrt{b-c+d+d_0} \cdot \sqrt{a^2 + e^2 - 2 \cdot a \cdot e \cdot \cos(\theta)} \cdot \sqrt{b-c+d-d_0} \cdot \sqrt{a^2 + e^2 - 2 \cdot a \cdot e \cdot \cos(\theta)} \cdot (-e + a \cdot \cos(\theta))}{2 \cdot (a^2 + e^2 - 2 \cdot a \cdot e \cdot \cos(\theta))} + \frac{a \cdot (a^2 - b^2 + a^2 + (-c+d)^2 - 2 \cdot a \cdot e \cdot \cos(\theta)) \cdot \sin(\theta)}{2 \cdot (a^2 + e^2 - 2 \cdot a \cdot e \cdot \cos(\theta))} \right] \cdot \sin(\theta) + a \cdot \sin(\theta)$$