

The Secret Beauty of Parametric Equations Pre Calculus 10.7

Lesson 250 | Precalculus | Parametric equations

<https://www.youtube.com/watch?v=IsuqsPfd3RA>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

Eliminate t from $x=12t+4$, $y=t^2+5$. Describe the curve and direction as t increases.

02

Eliminate t from $x=5t+14$, $y=t^2+12$. Describe the curve and direction as t increases.

03

Eliminate t from $x=13t+6$, $y=t^2+5$. Describe the curve and direction as t increases.

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04

Eliminate t from $x=12t+7$, $y=t^2+3$. Describe the curve and direction as t increases.

05

Eliminate t from $x=2t+5$, $y=t^2+8$. Describe the curve and direction as t increases.

06

Eliminate t from $x=6t+4$, $y=t^2+8$. Describe the curve and direction as t increases.

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01

Eliminate t from $x=12t+4$, $y=t^2+5$. Describe the curve and direction as t increases.

$t=(x-4)/12$, so $y=((x-4)/12)^2+5$. Upward parabola with vertex $(4,5)$. Since $dx/dt=12>0$, motion is from left to right.

02

Eliminate t from $x=5t+14$, $y=t^2+12$. Describe the curve and direction as t increases.

$t=(x-14)/5$, so $y=((x-14)/5)^2+12$. Upward parabola with vertex $(14,12)$. Since $dx/dt=5>0$, motion is from left to right.

03

Eliminate t from $x=13t+6$, $y=t^2+5$. Describe the curve and direction as t increases.

$t=(x-6)/13$, so $y=((x-6)/13)^2+5$. Upward parabola with vertex $(6,5)$. Since $dx/dt=13>0$, motion is from left to right.

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04

Eliminate t from $x=12t+7$, $y=t^2+3$. Describe the curve and direction as t increases.

$t=(x-7)/12$, so $y=((x-7)/12)^2+3$. Upward parabola with vertex $(7,3)$. Since $dx/dt=12>0$, motion is from left to right.

05

Eliminate t from $x=2t+5$, $y=t^2+8$. Describe the curve and direction as t increases.

$t=(x-5)/2$, so $y=((x-5)/2)^2+8$. Upward parabola with vertex $(5,8)$. Since $dx/dt=2>0$, motion is from left to right.

06

Eliminate t from $x=6t+4$, $y=t^2+8$. Describe the curve and direction as t increases.

$t=(x-4)/6$, so $y=((x-4)/6)^2+8$. Upward parabola with vertex $(4,8)$. Since $dx/dt=6>0$, motion is from left to right.