Desmos Graphing Project

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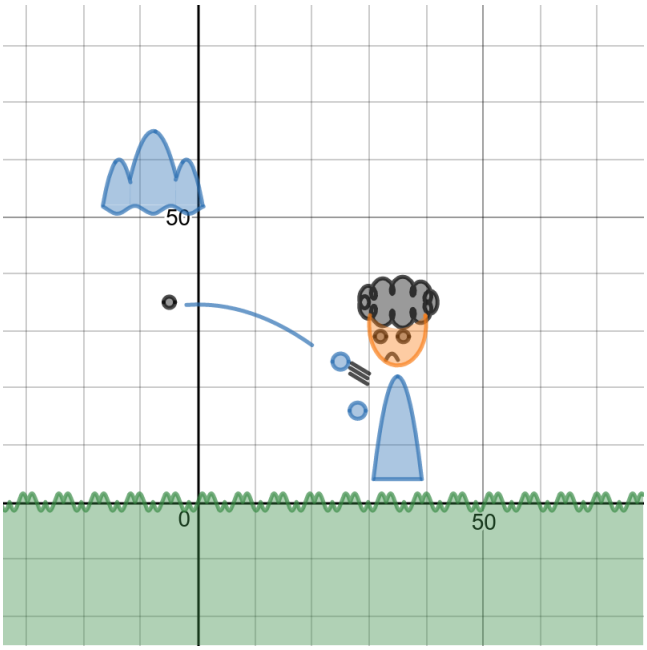
"Wii Resort Dog Game but He Lost the Dog"

Best experienced with Wii theme

Desmos link: **https://bit.ly/2IL4mGj**

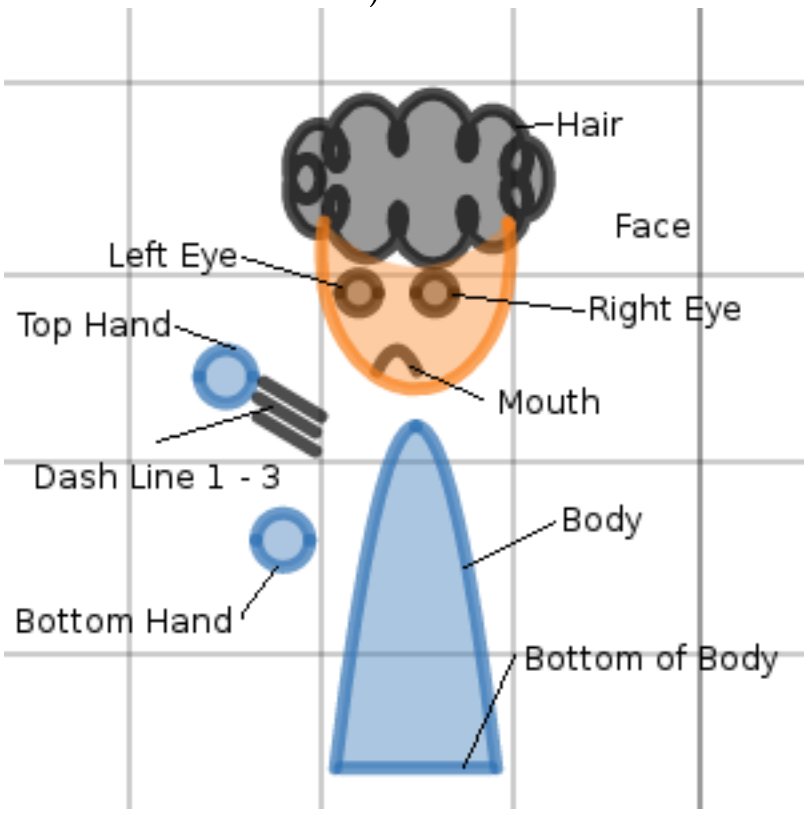
Domains and ranges are rough estimates unless it was in the equation



Document written in LaTeX

Functions

1) Mii



Hair

$$\left(\frac{\left(2\cos\left(\frac{\pi}{0.6}t\right)+12\cos\left(\frac{\pi}{6}t\right)\right)+70}{2}, \frac{\left(3\sin\left(\frac{\pi}{0.6}t\right)+6\sin\left(\frac{\pi}{6}t\right)+70\right)}{2}\right)$$

$$D = (28.25 < x < 42)$$

$$R = (30.5 < y < 39.5)$$

Right Eye

$$(x-36)^2 + (y-29)^2 \leq 1$$

$$D = (35 < x < 37)$$

$$R = (28 < y < 30)$$

Left Eye

$$(x-32)^2 + (y-29)^2 \leq 1$$

$$D = (31 < x < 34)$$

$$R = (28 < y < 30)$$

Mouth

$$y = -(x-34)^2 + 26 \{y > 24.9\}$$

$$D = (33 < x < 35)$$

$$R = (4 < y < 26)$$

Head

$$\frac{(x-35)^2}{0.5} + (y-31)^2 \leq 50 \{y < (0.1(x-35)^2 + 30.4)\}$$

$$D = (30 < x < 40)$$

$$R = (\ 24 < y < (0.1(x-35)^2 + 30.4)$$

Body

$$y \leq -(x-35)^2 + 22 \ \ \{y > 4\}$$

$$D = (30.75 < x < 39.25)$$

$$R = (4 < y < 22)$$

Bottom of Body

$$y = 4 \{31 < x < 39\}$$

$$D = (31 < x < 39)$$

$$R = (y = 4)$$

Bottom Hand

$$(x-28)^2 + (y-16)^2 \leq 2$$

$$D = (28 - \sqrt{2} < x < 28 + \sqrt{2})$$

$$R = (16 - \sqrt{2} < y < 16 + \sqrt{2})$$

Top Hand

$$(x-25)^2 + (y-24.6)^2 \leq 2$$

$$D = (25 - \sqrt{2} < x < 25 + \sqrt{2})$$

$$R = (24.6 - \sqrt{2} < y < 24.6 + \sqrt{2})$$

Dash Line 1

$$y = -0.6x + 40.5 \{27 < x < 30\}$$

$$D = (27 < x < 30)$$

$$R = (22.5 < y < 24.25)$$

Dash Line 2

$$y = -0.6x + 39.5 \{26.7 < x < 29.7\}$$

$$D = (26.7 < x < 29.7)$$

$$R = (21.75 < y < 23.5)$$

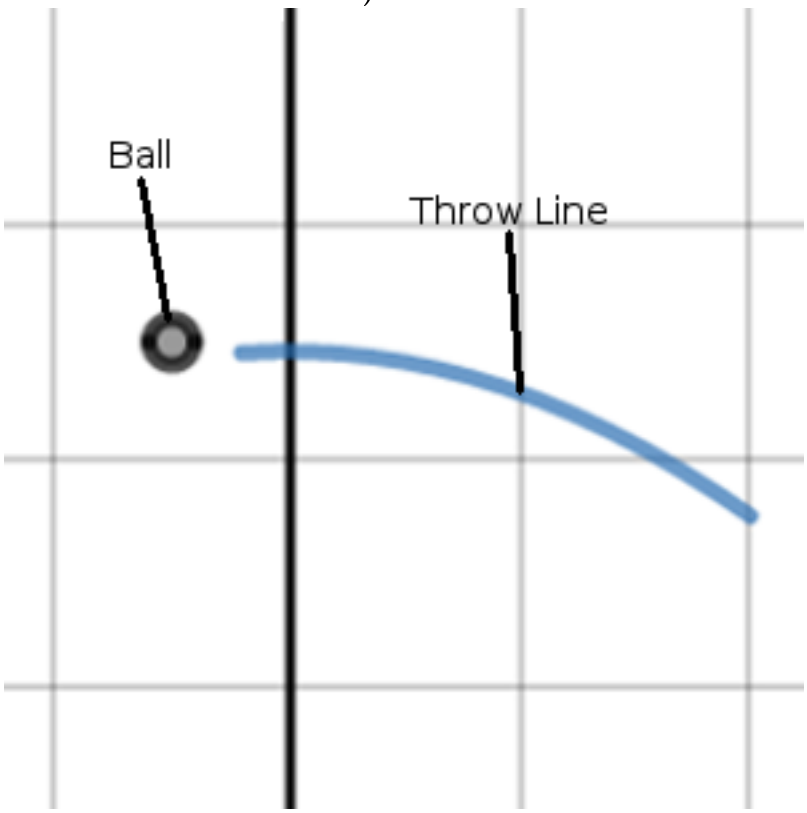
Dash Line 3

$$y = -0.6x + 38.5 \{26.7 < x < 29.7\}$$

$$D = (26.7 < x < 29.7)$$

$$R = (20.75 < y < 22.5)$$

2) Ball



Ball

$$(x+5)^2+(y-35)^2 \leq 1$$

$$D=(-4<x<-6)$$

$$R=(-34<y<-36)$$

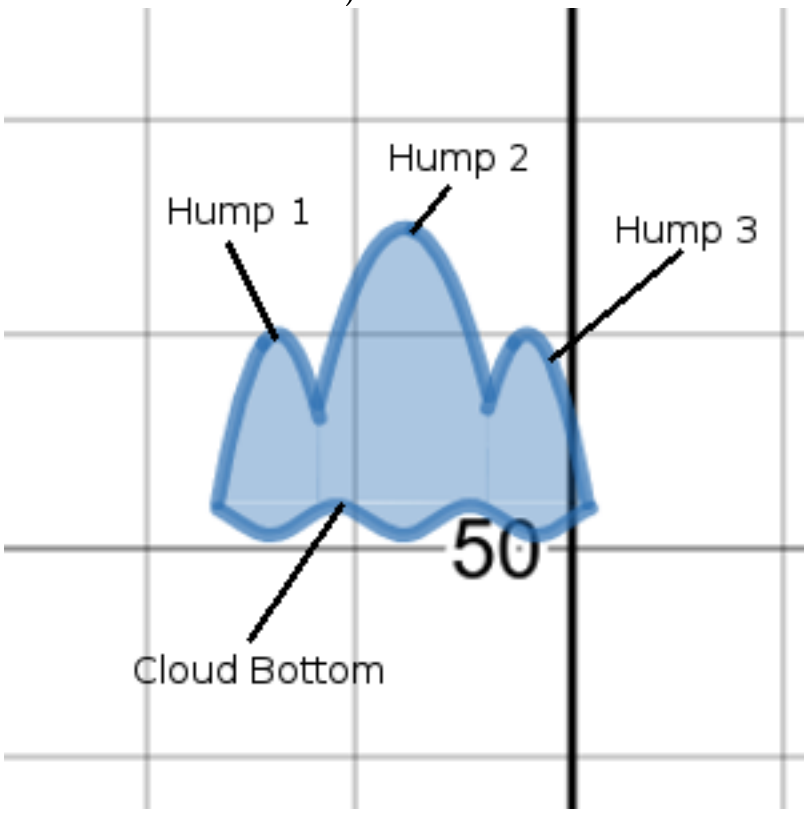
Throw Line

$$-\tfrac{2x}{15}^2+34.6\,\{-2<x<20\}$$

$$D=(-2<x<20)$$

$$R=(27.5<y<34.6)$$

3) Cloud



Hump 1

$$y \leq -(x+13.8)^2 + 60 \{52 < y\} \{x < -11.8\}$$

$$D = (-16.6 < x < -11.8)$$

$$R = (52 < y < 60)$$

Hump 2

$$y \leq -0.5(x+7.8)^2 + 65 \{52 < y\} \{-11.9 < x < -3.79\}$$

$$D = (-11.9 < x < -3.79)$$

$$R = (52 < y < 65)$$

Hump 3

$$y \leq -(x+2)^2 + 60 \{52 < y\} \{x > -3.9\}$$

$$D = (-3.9 < x < 0.8)$$

$$R = (52 < y < 60)$$

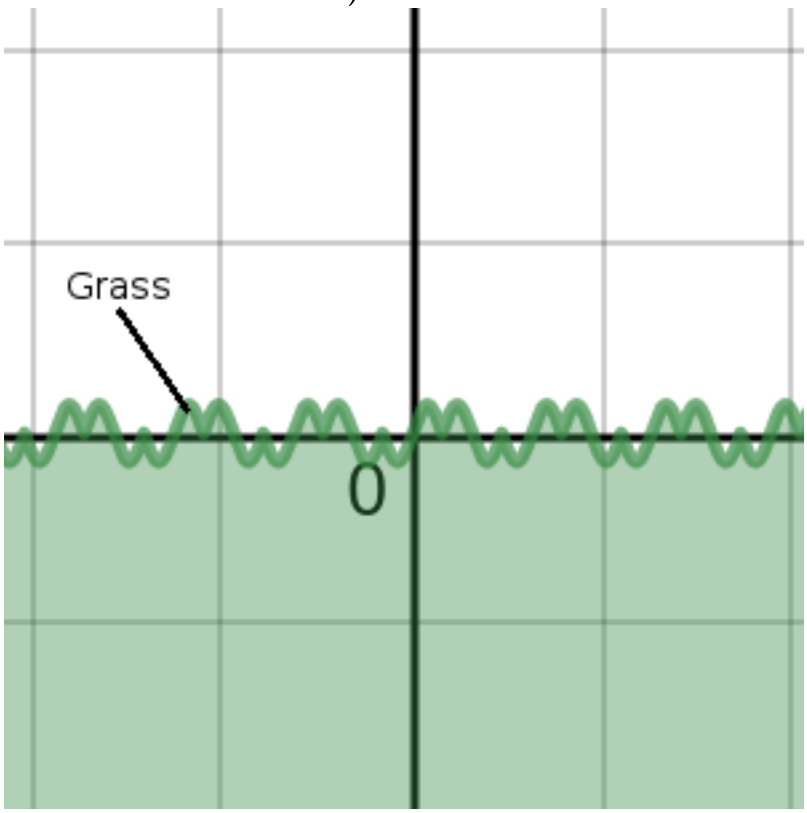
Cloud Bottom

$$y \geq 0.7 \sin(x) + 51.2 \left\{-16.6 < x < 1\right\} \left\{y < 52\right\}$$

$$D = (-16.6 < x < 1)$$

$$R = (50.5 < y < 52)$$

4) Grass



Grass

$$y \leq |2\cos(x)| \cdot 1.5\sin(x)$$

$$D = (-\infty < x < \infty)$$

$$R = (-\infty < y < 1.5)$$