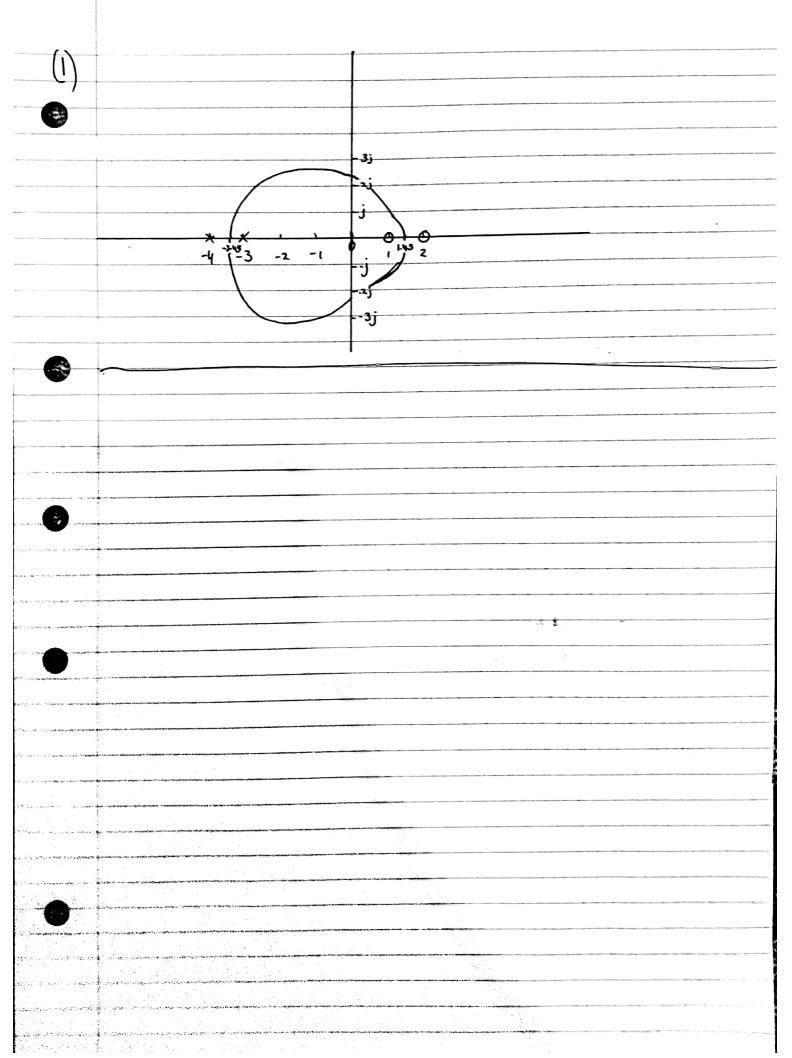
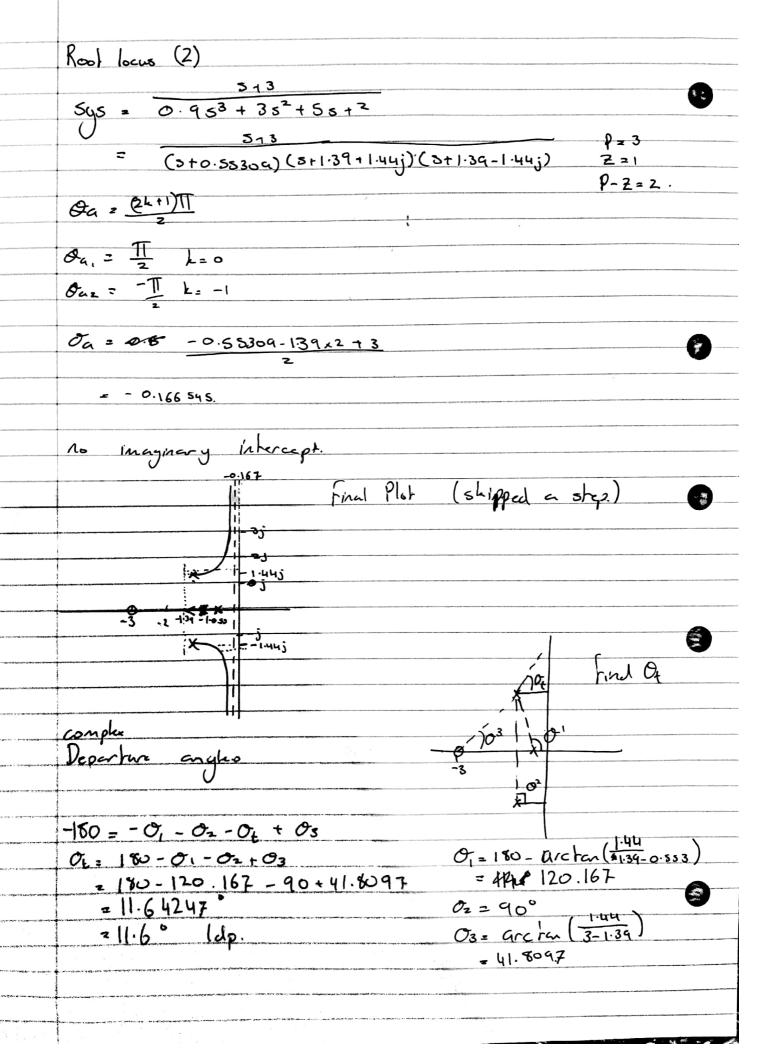
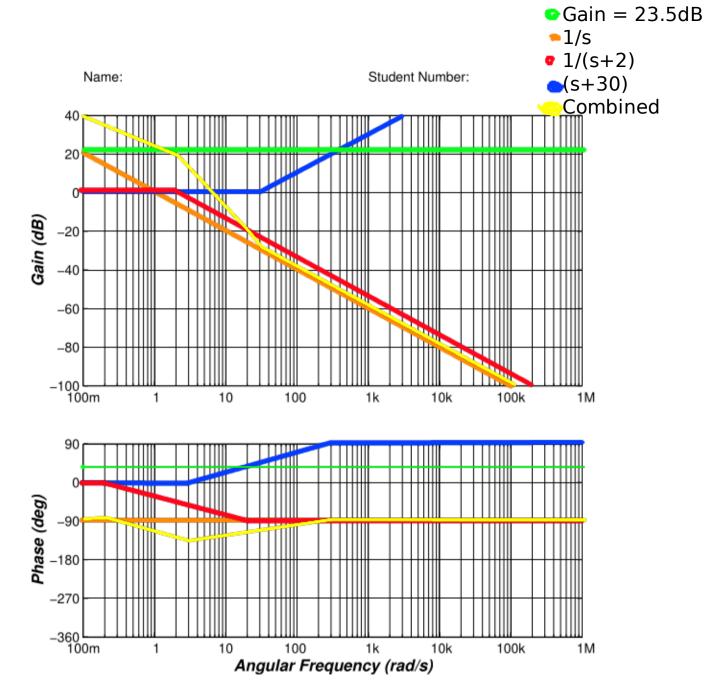
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	Break away/inpoints	- Algebrai	- method
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			-3 4)(05+3)(05+4)
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	(206° = 406 + 700-) 2 6 3 406 - 1406	1)(05-1) = (06-2006 1)(06-1) = (206.606 =2012-1061414 = 118062+	+306-9)(06+4) 306-9)(06+4) 306-1206-
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dh (-25-7)(5 <sup>2</sup> -3512) # (45 <sup>3</sup> 17512)(25-3)  ds = (5 <sup>2</sup> -35+2) <sup>2</sup> We only care about the numeratur here and it's the same Quadratic in the algebraite method a title I'm going to ship to the answer  O= -345 or 1.45  Depending on the function, the derivative method and be more conflicted. I personally find it easier as it's got three analyses semi expanded.  [Mangiacry crossing Roots.  Pick point [45+3:45] actitions averaging of break in fewer yet arcter (-120) tarken (-120) at 22000 1.2  arcter (-120) tarken (-120) at 22000 1.2  arcter (110) - arcten (-120) at 22000 1.2  arcter (		$k_2 = 5^2 - 734 \cdot 12$
We only care about the numeratur here and it's the same  Quadrate in the algebraits method a state I'm going to  Ship to the answer  O= -3.45 or 1.45  Departing on the function, the derivative method can be  more conflicted. I personally find it easier as it's got the  pendents seem expanded.  Maginary crossing Ponts.  Plack point 1.45 + 3.45 sections averaging of breek in fewery well  D 2.4 \$5;  arctar (-120) rarcher (-120) at \$2200 - 4-3 12  - arctar (1800) - archar (1200) at \$2200 - 4-3 12  - arctar (1800) - archar (1200) at \$2000 - 4-3 12  - arctar (1800) - archar (1800) at \$1000 - 4-3 10  - 170.76  go laver to 2.2. yint = 404 111.65  Sub above 2.45 for 22.  go up to 2.25 yint = -180.5.	gyppesiji i i samilija i ninghumbaniy (gilija i i	The state of the s
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We only care about the numeratur here and it's the same  Quadrate in the algebraits method a state I'm going to  Ship to the answer  O= -3.45 or 1.45  Departing on the function, the derivative method can be  more conflicted. I personally find it easier as it's got the  pendents seem expanded.  Maginary crossing Ponts.  Plack point 1.45 + 3.45 sections averaging of breek in fewery well  D 2.4 \$5;  arctar (-120) rarcher (-120) at \$2200 - 4-3 12  - arctar (1800) - archar (1200) at \$2200 - 4-3 12  - arctar (1800) - archar (1200) at \$2000 - 4-3 12  - arctar (1800) - archar (1800) at \$1000 - 4-3 10  - 170.76  go laver to 2.2. yint = 404 111.65  Sub above 2.45 for 22.  go up to 2.25 yint = -180.5.		$(5^2 \cdot 35 + 2)^2$
Depending on the function, the devicative method can be more complicated. I personally find it easier as its got the breakets seem expanded.    Manginery crossing Pants.   145 + 3.45 sebitemy energy age of break in family well   2.485; exertion (-2.10) et 82 eros -4-3 12 erotan (2.10) - archen (2.10) et 82 eros -4-3 12 erotan (2.10) - archen (2.10) personal   2.10.76 go laser to 2.2. yint = 48 to [11.65]  go up to 2.25 yint = -179 - 179.368  go down to 2.25 yint = -180.5.	ng agaman di termenia sahiji saja dimengan mengalah karang senjah yan	
Depending on the function, the devicative method can be more complicated. I personally find it easier as its got the breakets seem expanded.    Manginery crossing Pants.   145 + 3.45 sebitemy energy age of break in family well   2.485; exertion (-2.10) et 82 eros -4-3 12 erotan (2.10) - archen (2.10) et 82 eros -4-3 12 erotan (2.10) - archen (2.10) personal   2.10.76 go laser to 2.2. yint = 48 to [11.65]  go up to 2.25 yint = -179 - 179.368  go down to 2.25 yint = -180.5.		Quadratic in the algebraite method & SEA I'm going to
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Degending on the function, the derichine method can be more complicated. I personally find it easier as its got the breaker's semi expanded.    Manginery crossing Rands.    Pick point 1.45 + 3.45 settlemy energy age of brech in favory act	the state of the commence of the state of th	
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Pick point 1.45 t3.45 actificing averaging of brech in fewery with  D 2.4 \$5;  arctan (-1/20) taraban (-1/20) 24 & 2-100 -4-3   1 2  - arctan (1/20) - arctan (1/2002) Pilco2.40)  = -170.76  go laver to 2.2. yint = 40 # [11.65  sub above 2.45 for 2.2.  go up to 2.25 yint = -179 -179.368  go down to 2.225 yint = -180.5.		December 11 C. 1 Ha cont 1 1/2 /-
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Pick point 1.45 + 3.45 actitumy avergage of brech in laney vol D 2.4 & 5; arcter (-2.45) 24 & 2 = 1-3   1 3 arcter (-1/2 40) + arcter (-1/2 42) & 1 = 40 = 181.65 go laser to 2.2. yint = 40 = 181.65 go up to 2.25 yint = -179 - 179.368 go down to 2.25 yint = -180.5.		
Pick point 1.45 + 3.45 actitumy avergage of brech in laney vol D 2.4 & 5; arcter (-2.45) 24 & 2 = 1-3   1 3 arcter (-1/2 40) + arcter (-1/2 42) & 1 = 40 = 181.65 go laser to 2.2. yint = 40 = 181.65 go up to 2.25 yint = -179 - 179.368 go down to 2.25 yint = -180.5.		Imaginary crossing Ronds
D 2.4 & 5;  arctan (-1/210) rarchen (-1/210) 24 & 2 = 100 - 10 - 10 1 2  - arctan (1/2100) - arctan (1/2100) Palco2.40)  = -170.76  go laser to 2.2. yint = 4764 [11.65  sub above 2.45 for 2.2.  go up to 2.25 yint = -179 -179.368  go down to 2.225 yint = -180.5.		
aretan (-1/210) raretan (-1/210) 24 & 2-er-s -4-3   1 2  - aretan (1/2100) - aretan (1/2100)   3-les.   -2.40)  = -170.76  go lower to 2.2. yint = 484 [81.65  sub above 2.45 for 2.2.  go up to 2.25 yint = -179 -179.368  go down to 2.225 yint = -180.5.		Pick point 1:43 +3 activery every cage of break in fewer val
aretan (-1/210) raretan (-1/210) 24 & 2-er-s -4-3   1 2  - aretan (1/2100) - aretan (1/2100)   3-les.   -2.40)  = -170.76  go lower to 2.2. yint = 484 [81.65  sub above 2.45 for 2.2.  go up to 2.25 yint = -179 -179.368  go down to 2.225 yint = -180.5.		0 2.4 \$5;
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go down 1 2.225 yinh = -180.5.	almerina em minere for videra. Aplicat	
		go up 18 2:23 year = 179.368
	e <b>d</b> er (10) and or foreignessen	go down 1 2.225 winh = -180.5.
50 y hreapt is ~ 2.225.		
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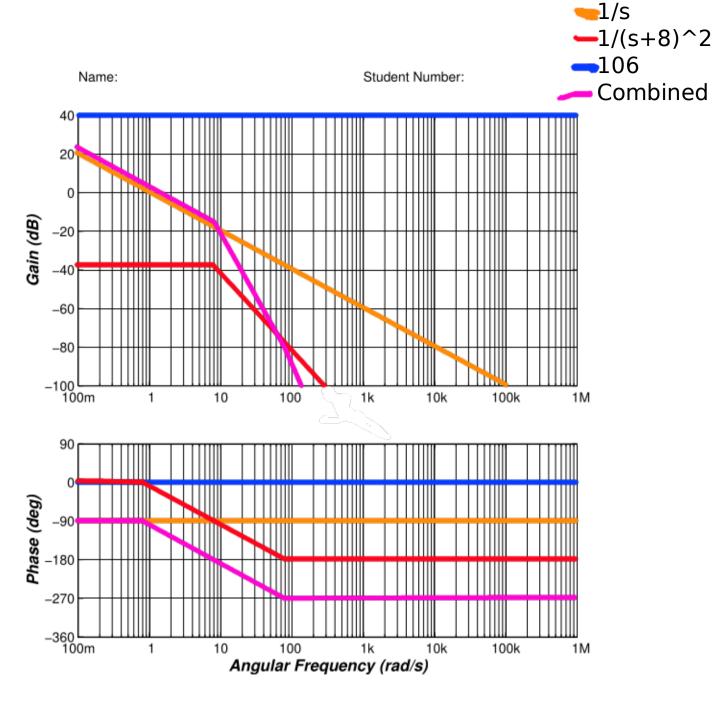


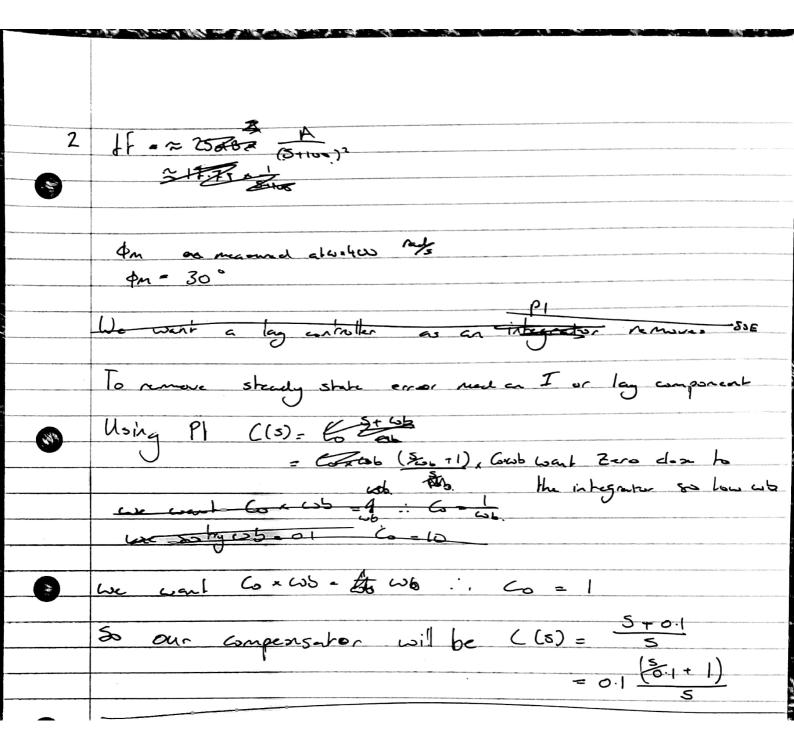


-	Bade Ploto 1 at w=0
ey 3	$\frac{5+30}{5^{2}+25} = \frac{30}{2} \left(\frac{2}{5}+1\right) \left(5+36\right) \qquad \text{gain} = \frac{20}{5} \log 30$ $= 29.54 \times 10$
	$S^{-1}$ gain = 0 $(S+2)^{-1}$ gain = -20 log 2
	Stability  Fetal gain = 2010, 15 attacky.  additional = 23.5,18
	Pn = 60° is shable.  No Gain Margin



eq 4	106 106	106 gain = 20 log 106
+	53+16=2+643 S(5+16=+64)	= 40.5 aB ONBALLUT
	s(s**+8)2	5 gain = OdB 200B polloff
	S(3** + 8)2	(5+8) -2 Jain = -40 log 8 4028 roll. H
	= 104 1 5(3 +1)2	5-1 gain = 0 dB 2018 2018 2018 2018 2018 2018 2018 2018
	Shability	total agin = 20 log 106
	J	total gain = 20 log 106 additional = 4.38 dB.
	pn 4 ≈ 70° is stable	
	PM # ~ 70° : is stable	
	<i>d</i> '	
	Gain Margin of -13dB	
	The state of the s	





UnCompensated
Compensator (s+0.1)/s
Combined

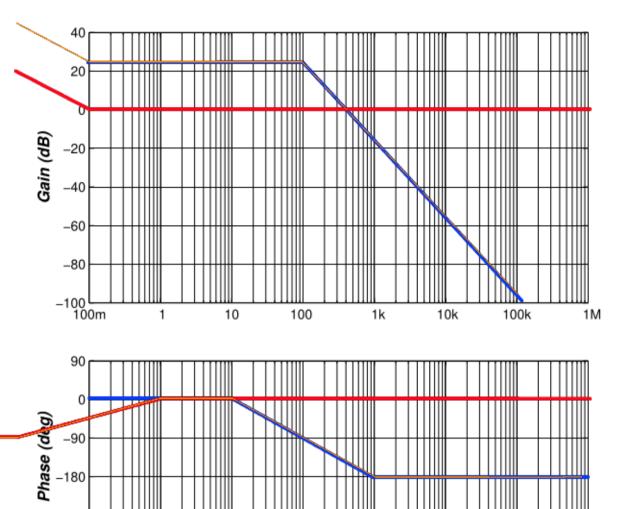
100k

1M



-270

−360 L 100m



Angular Frequency (rad/s)

10

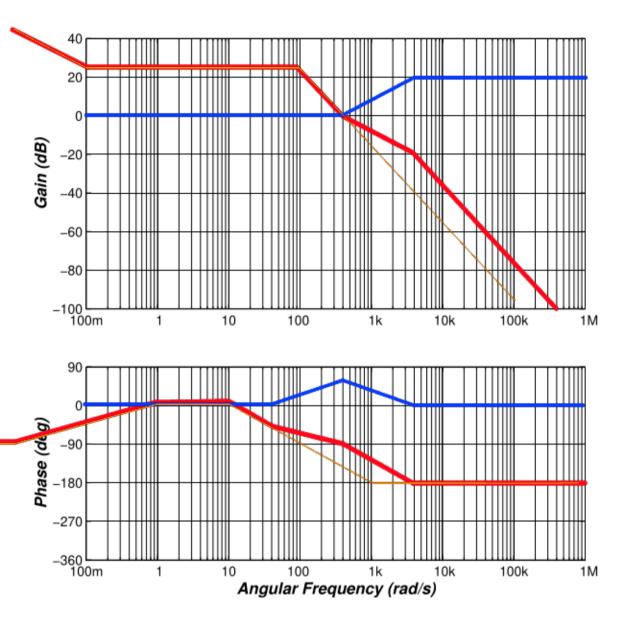
you can use the lead controller to make a tump in the phase that ranges between 0-90° which can be placed around your phase mayin to raise the phase at that point and increase the phase maying the also raises the response after the selected frequency increasing dry aft for a bit and to raising the gain at the phase maying the gain at the phase maying the unity coming point.

We will add a Zero at a = 100 and a pole at a zero at a zero at a pole at a zero at a zero at a pole at a zero at a zero at a pole at a zero at a zero at a pole at a zero at a ze

Combined

Lead Compensator (s+100)/(s+1000)

Compensated

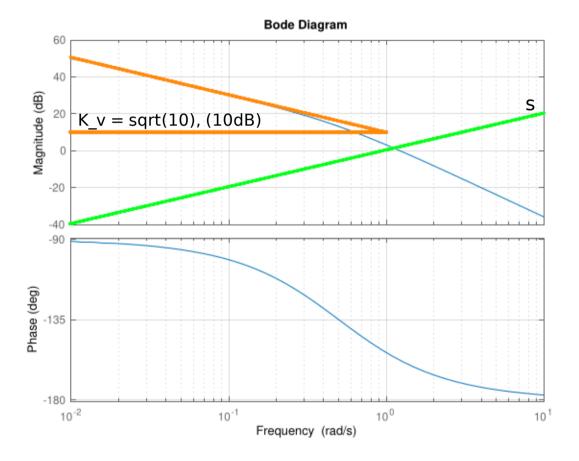


Type: 1

Steady State Error

Step Input: 0 Given it's a type 1 system. Ramp Input:  $1/K_v = 1/sqrt(10) = 0.316$ 

Parabolic Input: Infinite

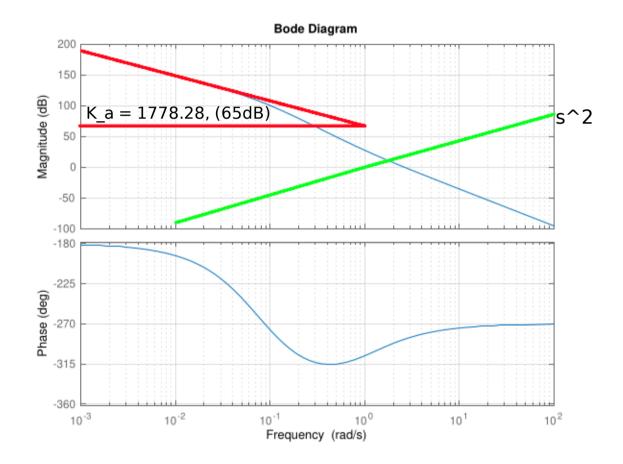


Type: 2

Steady State Error

Step Input: 0

Ramp Input: 0 Parabolic Input:  $1/K_a = 1/1778.28 = 5.6 * 10 ^ -4$ 



Type: 0

Steady State Error

Step Input:  $1/(1 + K_p) = 1/(1+5.012) = 0.16634$ 

Ramp Input: Infinite
Parabolic Input: Infinite

