8 November 2022

Review from last time: $f(0) = \cos k 0$ $T = 2\overline{k}$ $f(0) = \sin k 0$

- QI Graph F(0) = 5N20 $0 \le 0 \le 21$
 - Solution $T = 2\pi = T = \pi$

domain: $D < \Theta \leq 2TT$

range: -1≤ f 18) ≤ 1





T = 2T + 1/2 = 4T











Q4 (ruph f(0) = sind and g(0) = cosdfor $0 \leq D \leq 2T$ hence solve sine=cose, explain your findings using the unit circle Bachground information fal 9(L) ≯ S 4 13 Solve F(x)=g(x) merens what value of 2 makes me y coordinate of far) and g(1) Me same. There are multiple solutions which you can read of the graph



More transformations

vertical stretch y= Fixi y= kf(2) stretch by factor k Vertical shift $\gamma = f(z) + a$ shift by Q Example 1 (Dis intercharged with 2 consider fizi = since and it's not he sume ci) apply a vertical stretch as in me unit cirde) Juck 3 (ii) apply a vertical shift by 1 unit $0 \leq \chi \leq 20$ Solution Y = SIAX $-1 \leq \sin x \leq 1$ -1--353517253 y=3sinz 3 -

 $y = 3 \sin x + 1 - 2 \leq 3 \sin x + 1 \leq 4$

as sketch $F(1) = 4 \sin x - 2$ $0 \le 7 \le 2T$

(i) write down me range of f (I)

(ii) shetch y=3 on the same greeph

(iii) solve f(x)=3

(iv) shelph $g(x) = 4 \sin(2x) - 2$ $0 \le x \le 20$ write down me range of fail and me period of fail (v) shelph y = 3 again and solve g(x) = 3how many columns are you expecting

Solukion

 $\gamma = 2$ no
 Solution

 4
 sinx - 2 = 3

 -1
 $sinx \leq 1$

 -1
 sinx = 5

 sinx = 5 sinx = 5

 sinx = 1 sinx = 5

 sinx = 5 sinx = 5</t