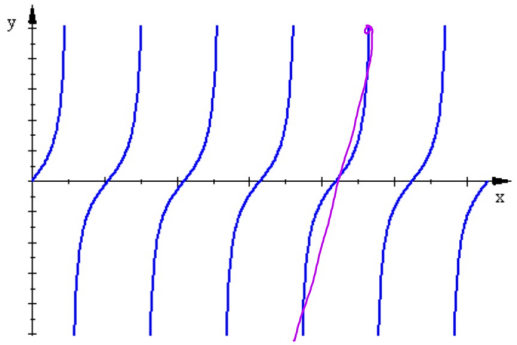
The parent Tangent Function: y = Tanx

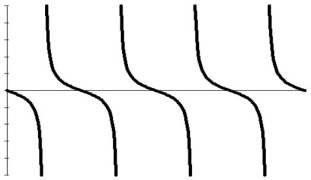


Period = π

Partent Function
Graph moves
up and to the right

y = aTan(bx)

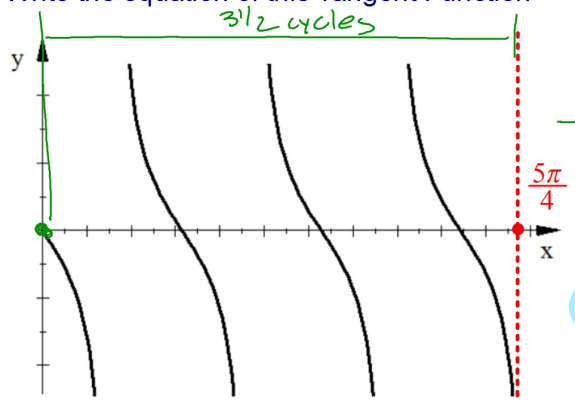
a: If a<0 there is an x-axis reflection →



b: The period of Tanbx = $\frac{\pi}{b}$

$b = \frac{\pi}{\text{period}}$

Write the equation of this Tangent Function



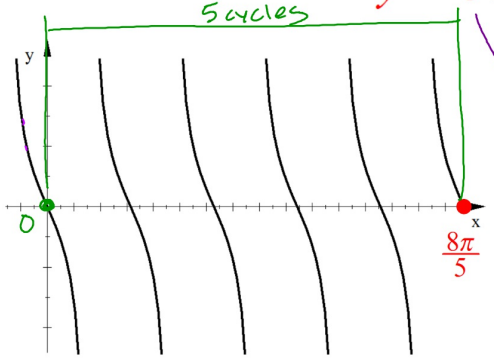
period = $\frac{5\pi}{14}$

$\frac{\frac{5\pi}{4}}{3\frac{1}{2}} = \frac{\frac{5\pi}{4}}{\frac{7}{2}} = \frac{5\pi}{4} \cdot \frac{2}{7}$

$b = \frac{14}{5}$

$y = -\text{Tan}\frac{14x}{5}$

Write the equation of this Tangent Function which is a tranformation of the function $y = 6\text{Tan}x$



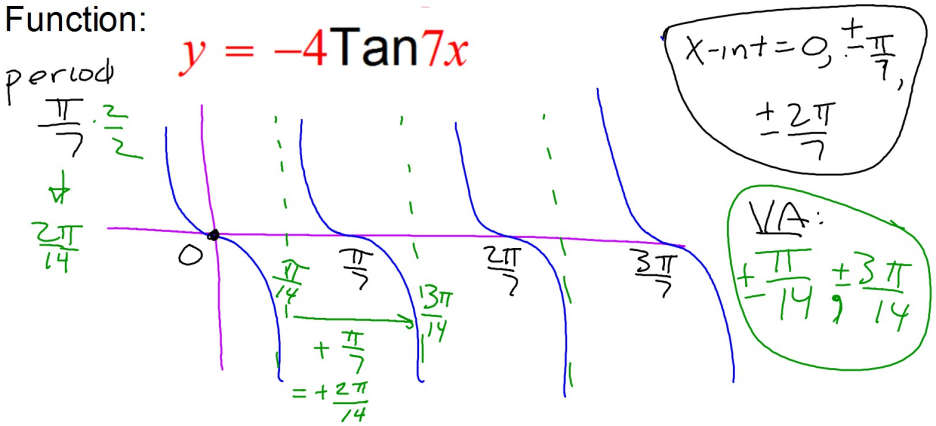
period: $\frac{\frac{8\pi}{5}}{5} = \frac{8\pi}{5} \cdot \frac{1}{5} = \frac{8\pi}{25}$

$b = 25/8$

$y = -6\text{Tan}\frac{25x}{8}$

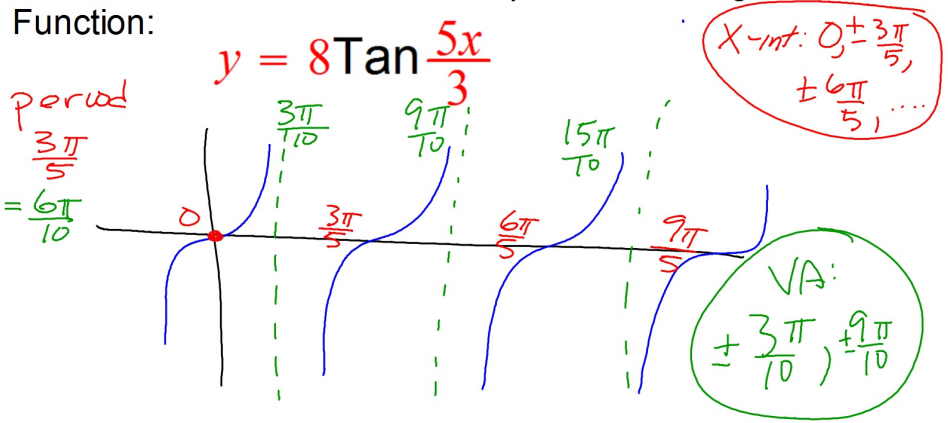
Find three VA and three x-intercepts for this Tangent Function:

$y = -4\text{Tan}7x$



Find three VA and three x-intercepts for this Tangent Function:

$y = 8\text{Tan}\frac{5x}{3}$



You can now complete Homework #12

Sec 13-6 Due tomorrow

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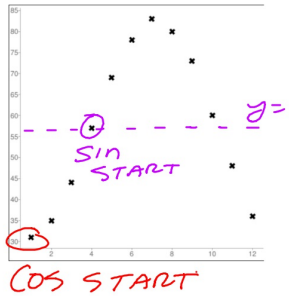
Problems 9,10, 12, 13, 23,24, 39,40

Find the period, 2 VA, and 2 x-int

Just find the period

Month	Average High Temp °F
Jan → 1	31 min
Feb → 2	35
March → 3	44
April → 4	57
May → 5	69
June → 6	78
July → 7	83 max
Aug → 8	80
Sept → 9	73
Oct → 10	60
Nov → 11	48
Dec → 12	36



Amp $= \frac{83-31}{2} = 26$

midline $y = \frac{83+31}{2} = 57$

period $= 12$

$b = \frac{2\pi}{12} = \frac{\pi}{6}$

cos phase shift → 1 RT

Sin phase shift → 4 RT

$y = 26\cos\left(\frac{\pi}{6}(x-1)\right) + 57$

$y = 26\sin\left(\frac{\pi}{6}(x-4)\right) + 57$

The numbers from 1 to 20 are in a bag. You will randomly pull out a number. Give each probability as a fraction without reducing.

1. P(multiple of 3) = $\frac{6}{20}$

2. P(factor of 36) = $\frac{8}{20}$

1 36
2 18
3 12
4 9
6 6

3. P(Even and multiple of 3)

2 12
4 14
6 16
8 18
10 20

3 15
6 18
9
12

4. P(Prime # or multiple of 5) = $\frac{11}{20}$

2 11
3 13
5 17
7 19

5
10
15
20

In your refrigerator are the following drinks: 8 bottles of water, 5 bottles of Coke, and 7 bottles of Gatorade.

Find each probability as a fraction without reducing.

1. You randomly grab a bottle and drink it then randomly grab another one, etc.

P(Coke then Gatorade then Coke) =

$$\frac{5}{20} \cdot \frac{7}{19} \cdot \frac{4}{18} = \frac{140}{6840}$$

2. You randomly grab a bottle, look at it and decide that's not the kind you want, return it and randomly grab another one, etc.

P(water then water then Gatorade) =

$$\frac{8}{20} \cdot \frac{8}{20} \cdot \frac{7}{20} = \frac{448}{8000}$$