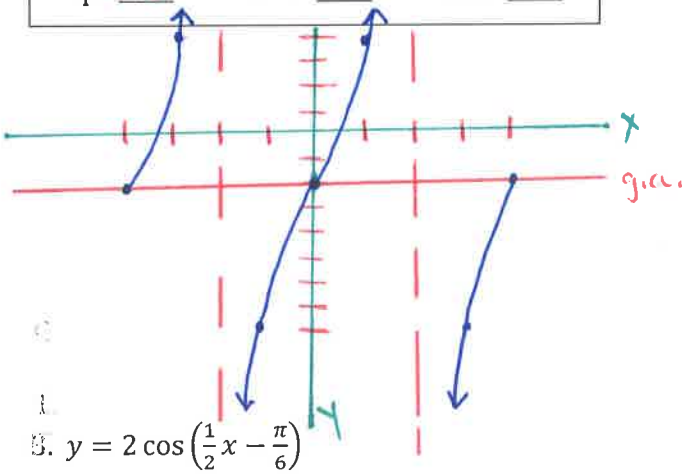
Trigonometry: Chapter 4 – Worksheet #2

Name: Key

Graph 2 periods for each function.

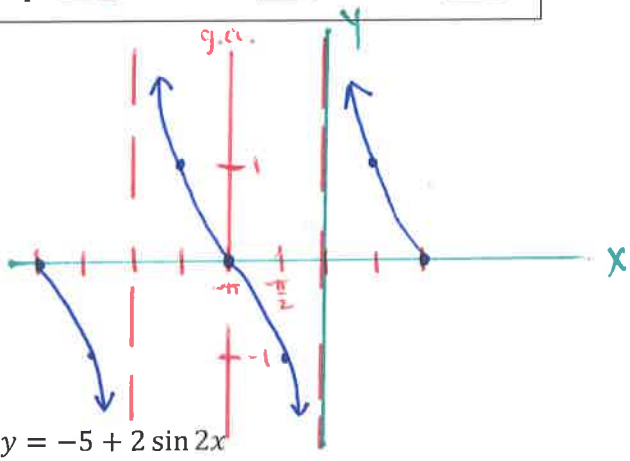
1. $y = 6\tan x - 2$

Amp: X(6)	Per: π	Inc: $\pi/4$
PS: X	PS/Inc: X	VS: ↓2
Flip: No	Max: ∞	Min: $-\infty$



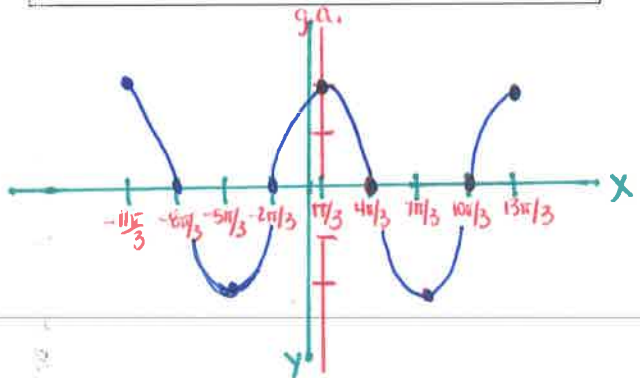
2. $y = -\tan\frac{1}{2}(x + \pi)$

Amp: X(1)	Per: 2π	Inc: $\pi/2$
PS: ←π	PS/Inc: $\pi \cdot \frac{1}{\pi} = 2$	VS: X
Flip: Yes	Max: ∞	Min: $-\infty$



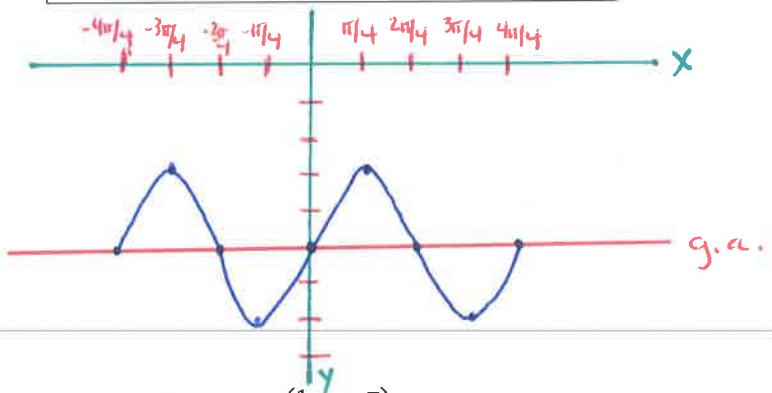
3. $y = 2\cos\left(\frac{1}{2}x - \frac{\pi}{6}\right)$

Amp: 2	Per: 4π	Inc: π
PS: →$\pi/3$	PS/Inc: $\pi/3 \cdot \frac{1}{\pi} = \frac{1}{3}$	VS: X
Flip: No	Max: 2	Min: -2



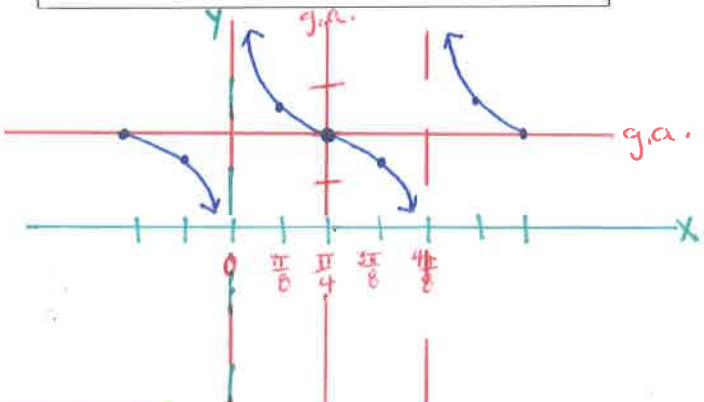
4. $y = -5 + 2\sin 2x$

Amp: 2	Per: π	Inc: $\pi/4$
PS: X	PS/Inc: X	VS: ↓5
Flip: No	Max: -3	Min: -7



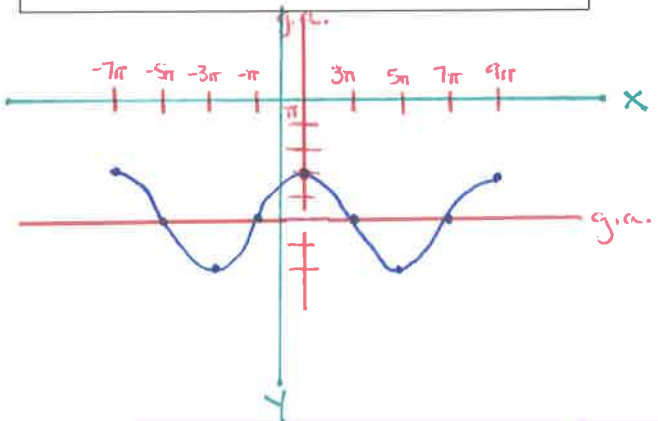
5. $y = -\frac{1}{2}\tan 2\left(x - \frac{\pi}{4}\right) + 2$

Amp: X(½)	Per: $\pi/2$	Inc: $\pi/8$
PS: →$\pi/4$	PS/Inc: $\frac{\pi}{4} \cdot \frac{2}{\pi} = 2$	VS: ↑2
Flip: Yes	Max: ∞	Min: $-\infty$



6. $y = -5 + 2\cos\left(\frac{1}{4}x - \frac{\pi}{4}\right)$

Amp: 2	Per: 8π	Inc: 2π
PS: →π	PS/Inc: $\pi \cdot \frac{1}{4\pi} = \frac{1}{2}$	VS: ↓5
Flip: No	Max: -3	Min: -7



TRIGONOMETRY
Sections 4.1 to 4.3
WORKSHEET 2

Write the equation of -

1) A Sin function with vertical shift up 10 .

$f(x) = \sin x + 10$

2) A Cos function with amplitude 2 and vertical shift dn 3 .

$f(x) = 2\cos x - 3$

3) A Sin function moved dn 1, phase shift right $\pi/2$ and period π .

$f(x) = -1 + \sin 2(x - \pi/2)$

4) A Cos function with period 6π, amplitude 4 and phase shift right π .

$f(x) = 4\cos \frac{1}{3}(x - \pi)$

5) A Tan function with phase shift left 1, period 3 and veritcal shift up 4 .

$f(x) = \tan \frac{\pi}{3}(x+1) + 4$

Name the maximum and minimum :

6) $y = 4 \sin x$ max = 4, min = -4

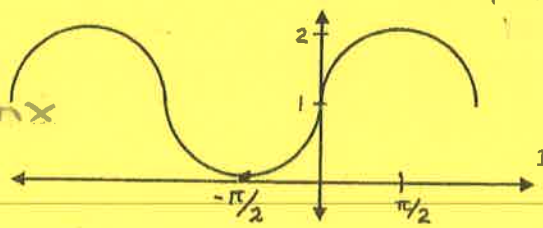
7) $y = 5 - 2 \sin 3x$ max = 7, min = 3

$\frac{\pi}{\frac{\pi}{3}}$

Write the equation for each graph in terms of the Sin function :

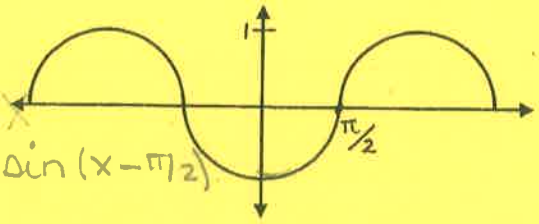
amp = 1 Per = 2π

8)



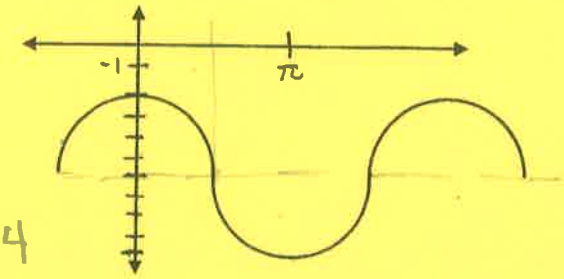
$y = 1 + \sin x$

9)



$y = \sin(x - \pi/2)$

10)



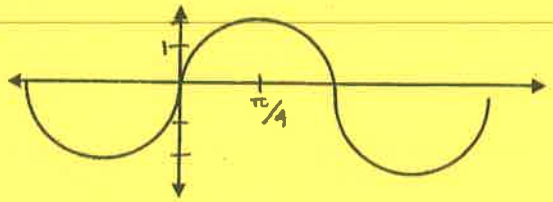
amp = 4

down 6

ps = right $\pi/2$

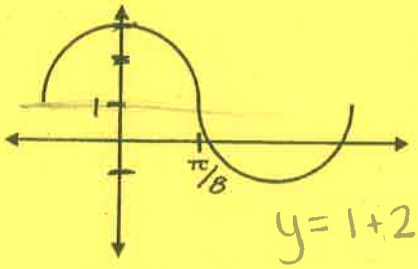
$y = -6 - 4\sin(x + \pi/2)$

11)



$y = 2 \sin 2x$

12)



$y = 1 + 2\sin 4(x + \pi/8)$

up 1

ps left $\pi/8$

amp = 2