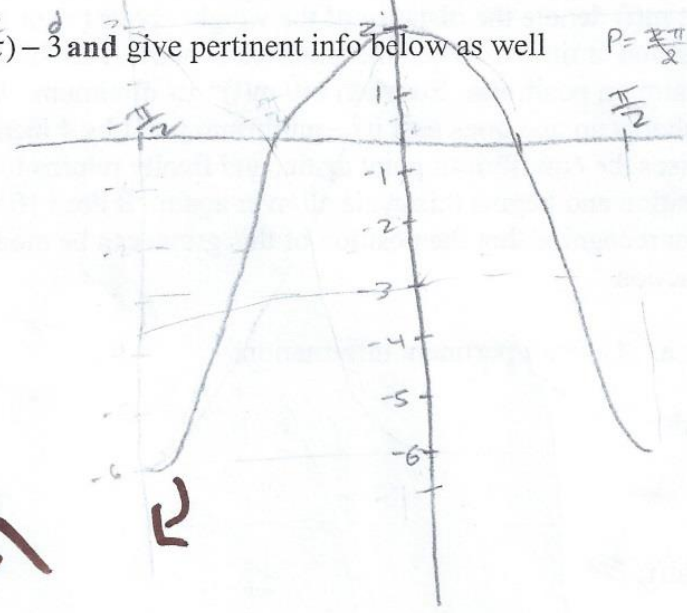


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Pre Calc Unit Test 20 Graphing Trig Functions

1. Graph $f(t) = -4 \cos(2t + \pi) - 3$ and give pertinent info below as well

amplitude: $|4|$
Period: π
Phase shift: $-\frac{\pi}{2}$
Vertical shift: -3



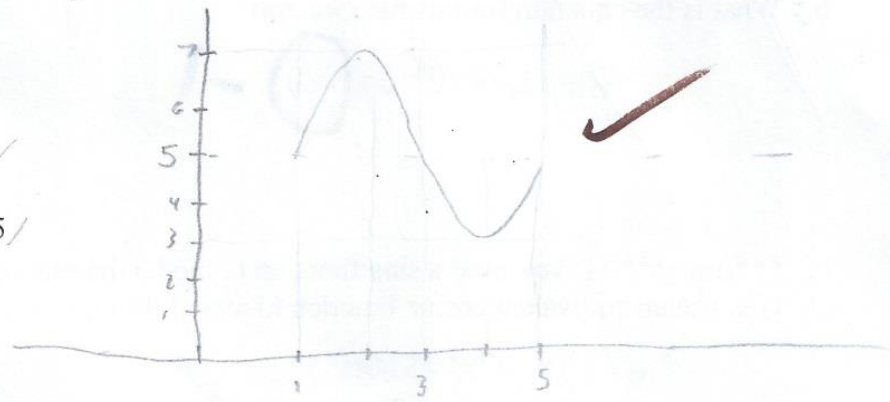
$P = \frac{2\pi}{2}$ $PS = -\frac{c}{b}$
 $-\frac{\pi}{2}$

$\frac{2 - -6}{2}$

2. Find a *sine* function $g(t)$ and graph the function, given the following information:

$g(t) = 2 \sin(\frac{\pi}{2}t - \frac{\pi}{2}) + 5$

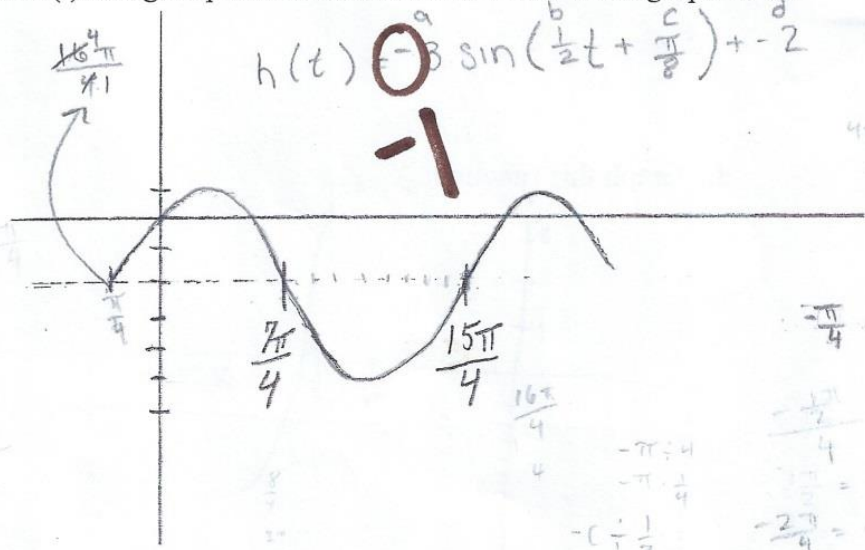
amplitude: $|2|$
Period: 4
Phase shift: 1
Vertical shift: 5



$4 = \frac{2\pi}{b}$
 $4b = 2\pi$
 $b = \frac{2\pi}{4}$
 $PS = -\frac{c}{b}$
 $1 = -\frac{c}{\frac{\pi}{2}}$
 $\frac{\pi}{2} = -c$

3. Find a *sine* function $h(t)$ and give pertinent information below if the graph of the function is as follows:

amplitude: $|3|$
Period: 4π
Phase shift: $-\frac{\pi}{4}$
Vertical shift: -2



$h(t) = -3 \sin(\frac{b}{2}t + \frac{c}{8}) - 2$

$4\pi = \frac{2\pi}{b}$
 $4\pi b = 2\pi$
 $b = \frac{2\pi}{4\pi}$
 $\frac{1}{2}$

$-\frac{\pi}{4} = -\frac{c}{b}$
 $-\frac{\pi}{4} = -\frac{c}{\frac{1}{2}}$
 $\frac{1}{2} \cdot \frac{\pi}{4} = -c$
 $-\frac{\pi}{8} = -c$
 $-\pi = 4$
 $-\pi = \frac{1}{4}$
 $-c \div \frac{1}{2}$
 $-c \cdot 2$
 $-\frac{2\pi}{4} = -c$
 $-\frac{1}{2}\pi = -c$
 $\frac{\pi}{2} = c$