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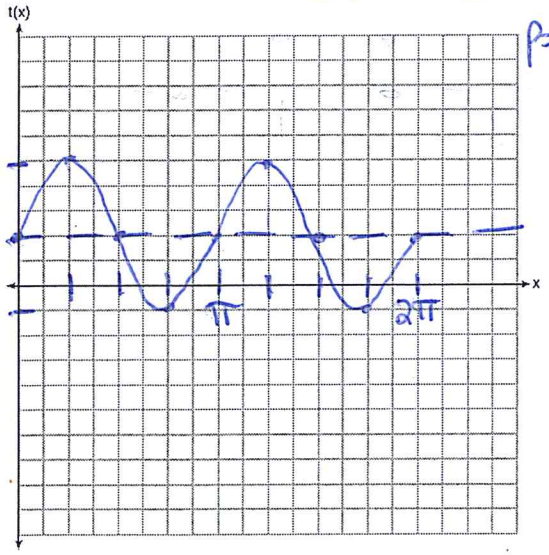
Date _____
Algebra II

Graphing Sinusoidal Curves Over Given Domains

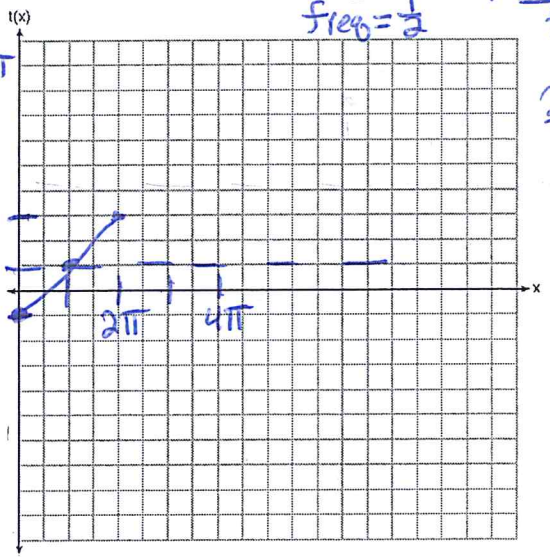
Graph the following two functions over the domain $[0, 2\pi]$ on the set of axes below.

1. $t(x) = 3\sin(2x) + 2$ amp=3 freq=2 +Sin shift=2



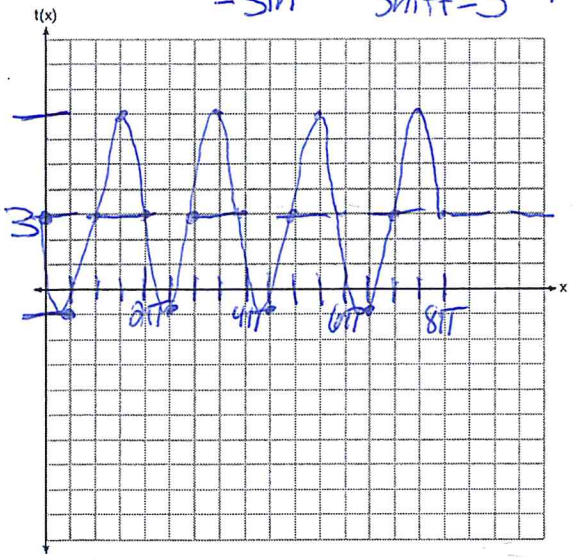
$P = \frac{2\pi}{f} = \frac{2\pi}{2} = \pi$

2. $y = -2\cos\frac{1}{2}x + 1$ amp=2 shift=1 −cos freq=$\frac{1}{2}$ $P = \frac{2\pi}{f} = \frac{2\pi}{\frac{1}{2}}$ $\frac{2\pi}{1} \cdot \frac{2}{1} = 4\pi$

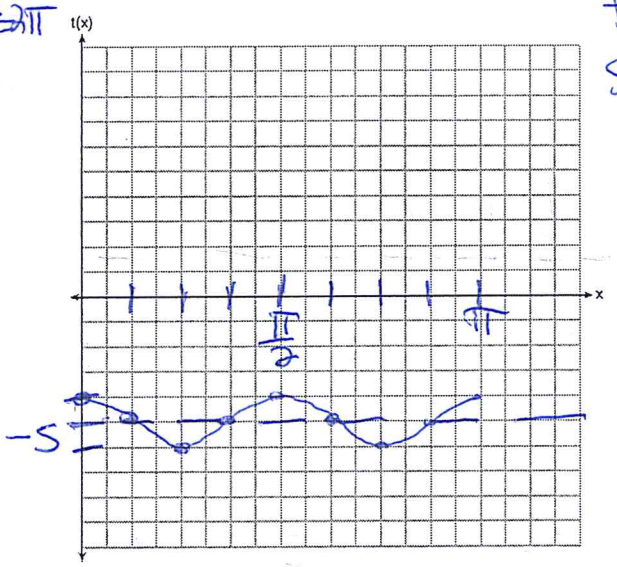


3. On the set of axes below, graph $y = -4\sin x + 3$ over the domain $[0, 8\pi]$ skipping a box won't fit

amp=4 freq=1 −sin shift=3 $P = \frac{2\pi}{1} = 2\pi$

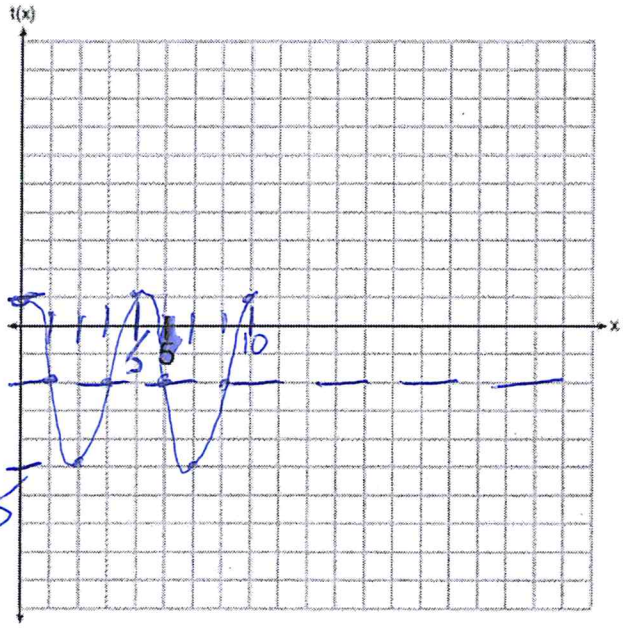


4. On the set of axes below, graph $y = \cos 4x - 5$ over the domain $[0, \pi]$ amp=1 +cos f=4 shift=−5 $P = \frac{2\pi}{4} = \frac{\pi}{2}$



5. On the set of axes below, graph

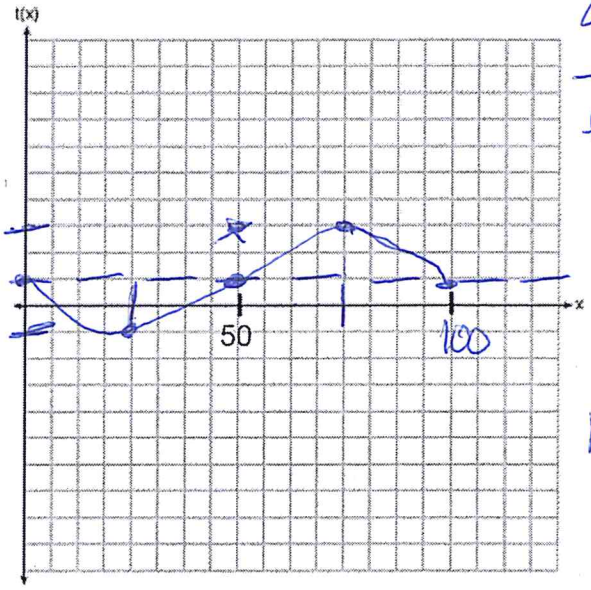
$y = 3\cos\frac{2\pi}{5}x - 2$ over the domain $[0,10]$



amp=3
+cos
$f=\frac{2\pi}{5}$
shift=-2
$p=\frac{2\pi}{\frac{2\pi}{5}}$
$\frac{2\pi}{1}\cdot\frac{5}{2\pi}=5$

6. On the set of axes below, graph

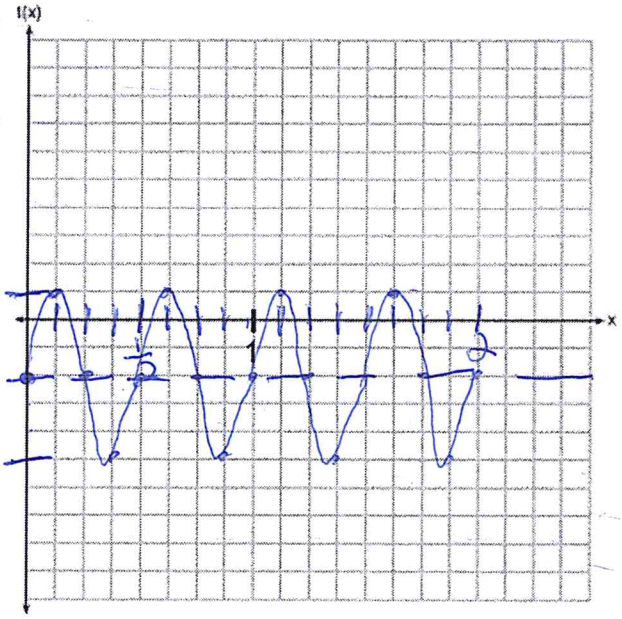
$y = -2\sin\frac{\pi}{50}x + 1$ over the domain $[0,100]$



amp=2
-Sin
$f=\frac{\pi}{50}$
Shift=1
$p=\frac{2\pi}{\frac{\pi}{50}}$
$p=\frac{2\pi}{1}\cdot\frac{50}{\pi}$
p=100

7. On the set of axes below, graph

$y = 3\sin 4\pi x - 2$ over the domain $[0,2]$

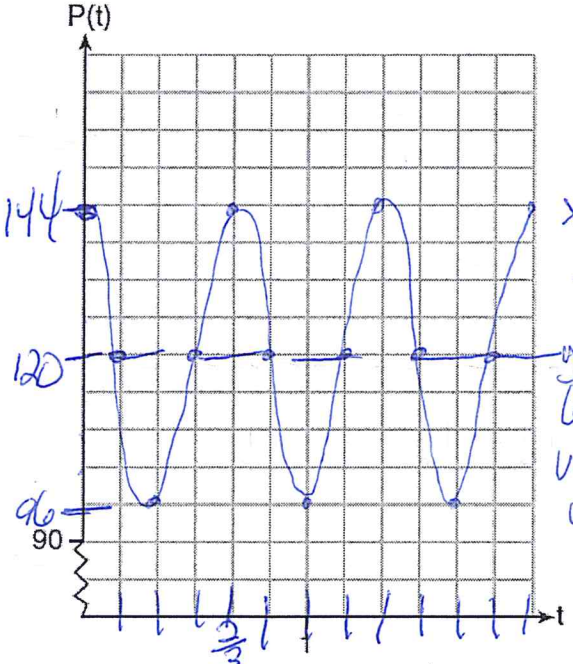


amp=3
+Sin
$f=4\pi$
shift=-2
$p=\frac{2\pi}{4\pi}=\frac{1}{2}$

8. On the set of axes below, graph

$P(t) = 24\cos(3\pi t) + 120$ over the domain

$0 \le t \le 2$.



X scale is $\frac{1}{6}$
$\frac{2}{3}=\frac{4}{6}$
y scale is by 6 since all values are multiples of 6

amp=24
+Cos
$f=3\pi$
Shift=120
$p=\frac{2\pi}{3\pi}=\frac{2}{3}$