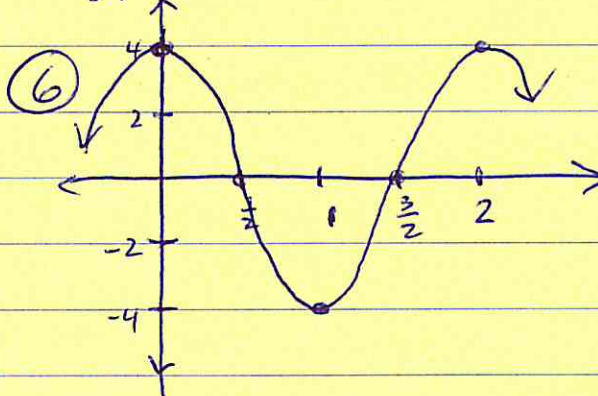
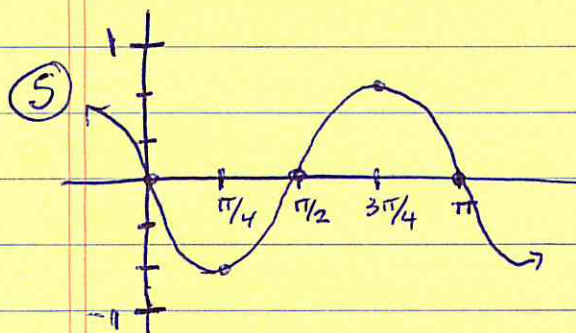
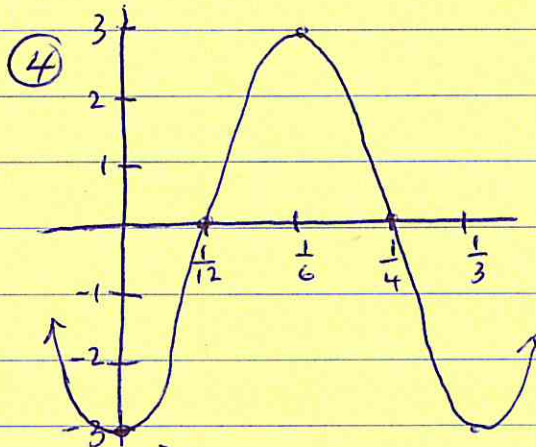
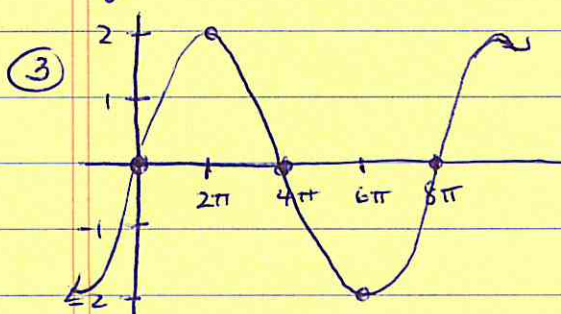


See 4.4 Review WS

① $y = 3 \sin \frac{1}{4}(x-5)$

② $y = 5 \sin \frac{2}{3}(x+2)$



⑦ Amp = 2.5

Period = $\frac{1}{3}$

Phase shift -

⑧ Amp = 5

Period = $\frac{\pi}{2}$

Phase shift: $\frac{\pi}{8} L$

⑨ Amp: 3

Period: 4π

Phase shift: -

⑩ Amp = $\frac{5}{3}$

Period: 2π

Phase Shift: πR

⑪ vertical reflection

horizontal stretch of 8

vertical translation 6U

⑬ maxs: $(0, \frac{1}{2})$ $(\pi, \frac{1}{2})$

min: $(\frac{\pi}{2}, -\frac{1}{2})$

zeros: $(\frac{\pi}{4}, 0)$ $(\frac{3\pi}{4}, 0)$

⑭ max: $(\frac{3\pi}{4}, 1)$

min: $(\frac{\pi}{4}, -1)$

zeros: $(0, 0)$ $(\frac{\pi}{2}, 0)$ $(\pi, 0)$

⑮ max: $(\pi, 9)$

min: $(3\pi, -9)$

zeros: $(0, 0)$ $(2\pi, 0)$ $(4\pi, 0)$

⑫ vertical shrink of $\frac{1}{6}$, horizontal reflection, horizontal stretch of $\frac{\pi}{2}$, phase shift of $5R$, vertical translation 3D