Write the equation of each using the description of the transfomations applied to each parent function.

1. Parent function: $\cos x$ Transformations: Upside-down, Period $=\frac{2\pi}{7}$, shift $\frac{\pi}{4}$ to the left & 10 units up.

EQ:

2. Parent function: $\sin x$ Transformations: Vertical stretch factor of 4, Period $= 6\pi$, shift $\frac{3\pi}{4}$ to the right and 9 units down.
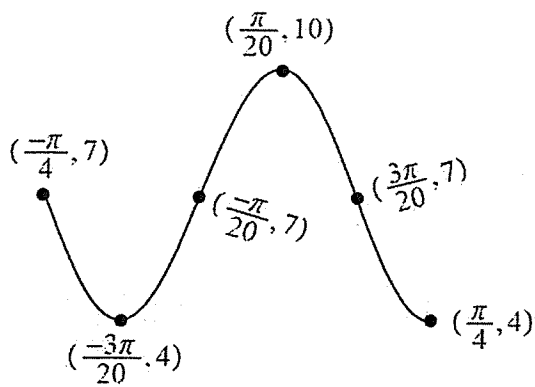
EQ:

3. Graph one period of this function. Label the coordinates of the maximums, minimums, and x-intercepts.

$$y = 8\cos(3(x - \tfrac{\pi}{6})) - 5$$

4. Write a Cosine Eq for this graph.
EQ:

5. Write both a Sine and a Cosine Eq for this graph.
Cos EQ:

Sin EQ:

Graph 4 labeled points: $(\frac{-\pi}{4}, 7)$, $(\frac{-3\pi}{20}, 4)$, $(\frac{-\pi}{20}, 7)$, $(\frac{\pi}{20}, 10)$, $(\frac{3\pi}{20}, 7)$, $(\frac{\pi}{4}, 4)$

Graph 5 labeled points: $(\frac{3\pi}{2}, 2)$, $(\frac{5\pi}{2}, -3)$, $(\frac{7\pi}{2}, -8)$, $(\frac{9\pi}{2}, -3)$, $(\frac{11\pi}{2}, 2)$, $(\frac{13\pi}{2}, -3)$, $(\frac{15\pi}{2}, -8)$