Math Analysis Unit 5 WS 2- Answer Key

1) $\frac{-1}{2} - \frac{\sqrt{3}}{2}i$

2) i

3) $-128 - 128i\sqrt{3}$

4) $1, -1, i, -i$

5) $-1, 1, \frac{-1}{2} - \frac{\sqrt{3}}{2}i, \frac{-1}{2} + \frac{\sqrt{3}}{2}i, \frac{1}{2} - \frac{\sqrt{3}}{2}i, \frac{1}{2} + \frac{\sqrt{3}}{2}i$

6) $\sqrt[4]{2}\left(\cos\frac{\pi}{8} + i\sin\frac{\pi}{8}\right)$,

$\sqrt[4]{2}\left(\cos\frac{9\pi}{8} + i\sin\frac{9\pi}{8}\right)$

7) $\sqrt{3} + i, \sqrt{3} - i, -\sqrt{3} + i, -\sqrt{3} - i, 2i, -2i$

8) $\frac{\sqrt{3}}{2} + \frac{1}{2}i, \frac{-\sqrt{3}}{2} + \frac{1}{2}i, -i$

9) $1, 0.6235 \pm 0.7818i, -0.2225 \pm 0.9749i, -0.9010 \pm 0.4339i$

10) $1, 0.3090 \pm 0.9511i, -0.8090 \pm 0.5878i$

11) $\pm 1, \pm i, 0.7071 \pm 0.7071i, -0.7071 \pm 0.7071i$

12) $\pm 1, \pm i, 0.8660 \pm 0.5i, 0.5 \pm 0.8660i, -0.5 \pm 0.8660i, -0.8660 \pm 0.5i$

13) $1, 0.7660 \pm 0.6428i, 0.1736 \pm 0.9848i, -0.5 \pm 0.8660i, -0.9397 \pm 0.3420i$