

# Foundation Algebra for Physical Sciences and Engineering (CELEN036)

## Homework 9 Answers

---

1.

a.  $\pm 3i$       b.  $\pm \frac{5}{3}i$       c.  $-1 \pm i$

2.

a.  $5 + 6i$       b.  $2 - 2i$       c. 8

3.

a.  $\frac{5}{2} + \frac{1}{2}i$       b.  $1 - 2i$       c.  $-\frac{4}{5} + \frac{8}{5}i$

4.

a.  $\frac{3}{2} - \frac{1}{2}i$       b.  $-\frac{14}{25} + \frac{2}{25}i$       c.  $-\frac{1}{5}i$

5.

a.  $\frac{4}{5} - \frac{7}{5}i$       b.  $-\frac{1}{2} + \frac{3}{2}i$       c.  $\frac{11}{41} + \frac{17}{41}i$

6.

a.  $\sqrt{2}(\cos \frac{\pi}{4} + i \sin \frac{\pi}{4})$

b.  $\sqrt{5}(\cos 2.6780 + i \sin 2.6780)$

c.  $5(\cos \pi + i \sin \pi)$

d.  $4(\cos \frac{\pi}{2} + i \sin \frac{\pi}{2})$

e.  $5(\cos 0.9273 + i \sin 0.9273)$

f.  $5(\cos (-2.2143) + i \sin (-2.2143))$

g.  $5(\cos (-0.9273) + i \sin (-0.9273))$

h.  $5(\cos 2.2143 + i \sin 2.2143)$