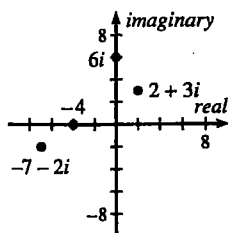


Practice, page 69

1. $\sqrt{29} \text{ cis } (-68.20^\circ)$ 2. $3\sqrt{3} \text{ cis } 105.79^\circ$

3 - 6.

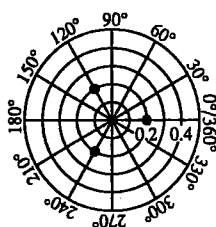


7. $-6, 3 - 3\sqrt{3}i, 3 + 3\sqrt{3}i$

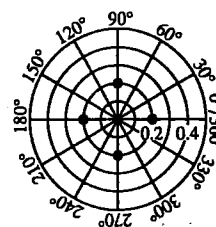
8. $3 \text{ cis } \frac{\pi}{15}, 3 \text{ cis } \frac{7\pi}{15}, 3 \text{ cis } \frac{13\pi}{15}, 3 \text{ cis } \frac{19\pi}{15}, 3 \text{ cis } \frac{5\pi}{3}$

9. $\text{cis } 0, \text{cis } \frac{\pi}{3}, \text{cis } \frac{2\pi}{3}, \text{cis } \pi, \text{cis } \frac{4\pi}{3}, \text{cis } \frac{5\pi}{3}$

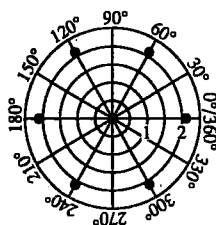
10.



11.



12.



13. $(x + 5i) \left[x - \left(\frac{5\sqrt{3}}{2} + \frac{5}{2}i \right) \right] \left[x - \left(-\frac{5\sqrt{3}}{2} + \frac{5}{2}i \right) \right]$

14. $(x + \sqrt[3]{18}) \left[x - \left(\frac{\sqrt[3]{18}}{2} + \frac{\sqrt{3}\sqrt[3]{18}}{2}i \right) \right] \cdot \left[x - \left(\frac{\sqrt[3]{18}}{2} - \frac{\sqrt{3}\sqrt[3]{18}}{2}i \right) \right]$

15. $3i, -\frac{3\sqrt{3}}{2} - \frac{3}{2}i, \frac{3\sqrt{3}}{2} - \frac{3}{2}i$

16. $1 + i, -0.642 + 1.260i, -1.397 - 0.221i, -0.221 - 1.397i, 1.260 - 0.642i$

17. For a pentagon, find the fifth roots of unity and graph them on a polar grid. Then connect the points. Use a similar method with the sixth roots of unity for a hexagon and the eighth roots of unity for an octagon.

18. $8, 8i, -8, -8i$

Practice, page 68

1. $-6 + 10.39i$

2. $0.51 - 0.61i$

3. $\sqrt{61} \text{ cis } 39.8^\circ$

4. $\sqrt{7} \text{ cis } 40.9^\circ$

5. $7i$

6. $-\frac{8\sqrt{5}}{25}$

7. $1265.73 + 3895.53i$

8. 1

9. $3904 - 19,104i$

10. $0.0006 - 0.0030i$

11. $-0.00098i$

12. $-512\sqrt{3} - 512i$

13. $-0.0414 + 0.0441i$

14. $-0.3295 - 0.3761i$

15. $0.79 \text{ cis } 2\pi$

16. $0.00008 \text{ cis } (-270^\circ)$

17. $81 \text{ cis } \left(-\frac{7\pi}{6}\right)$

18. $2 \text{ cis } 31^\circ$

19. $\left(3 \text{ cis } \frac{6\pi}{5}\right)^5 = 3^5 \text{ cis } 6\pi = 243$

20. $z^{-1} = \frac{1}{2} - \frac{1}{2}i; z^{-2} = \frac{1}{2}i; z^{-3} = -\frac{1}{4} - \frac{1}{4}i; z^{-4} = -\frac{1}{4}; \text{ yes}$

21. $2; 4 + 3i \text{ and } -4 - 3i$