

# Corrective Assignment #1

**Simplify each of the following powers of  $i$  into either  $-1$ ,  $1$ ,  $i$ , or  $-i$ .**

1.  $i^{10}$

2.  $i^{21}$

3.  $i^{36}$

4.  $i^{45}$

5.  $i^{87}$

**Simplify the following square roots.**

6.  $\sqrt{-27}$

7.  $\sqrt{-100}$

8.  $\sqrt{-125}$

9.  $-\sqrt{32}$

10.  $\sqrt{-72}$

**Simplify the following. Identify as Real, Imaginary or Complex.**

11.  $\sqrt{-36} + \sqrt{-9}$

12.  $6 + (2i)^2$

13.  $4i^2 - 3$

Real      Imaginary

Real      Imaginary

Real      Imaginary

14.  $2i(5i)$

15.  $3i(2i)(4i)$

16.  $\frac{8i}{2}$

Real      Imaginary

Real      Imaginary

Real      Imaginary

**Solve. Express your radical solutions in the simplest form.**

17.  $x^2 = -17$

18.  $5 - 3y^2 = 59$

19.  $2m^2 = -100$

**Solve. Express your radical solutions in the simplest form.**

20.  $(x - 3)^2 + 61 = 4$

21.  $-16 = (h + 7)^2 + 9$

22.  $3(t - 6)^2 = -114$

23.  $p^2 + 98 = -5p^2 - 46$

24.  $(v - 3)^2 + 54 = 0$

25.  $w^2 + 85 = 4$

## ANSWERS TO 6.1 CORRECTIVE ASSIGNMENT

1. $i^2 = -1$	2. $i = i$	3. $i^4 = 1$	4. $i = i$	5. $i^3 = -i$
6. $3i\sqrt{3}$	7. $10i$	8. $5i\sqrt{5}$	9. $-4\sqrt{2}$	10. $6i\sqrt{2}$
11. $9i$ Imaginary	12. $2$ Real	13. $-7$ Real	14. $-10$ Real	15. $-24i$ Imaginary
11. $4i$ Imaginary	17. $\pm i\sqrt{17}$	18. $\pm 3i\sqrt{2}$	19. $\pm 5i\sqrt{2}$	20. $3 \pm i\sqrt{57}$
21. $-7 \pm 5i$	22. $6 \pm i\sqrt{38}$	23. $\pm 2i\sqrt{6}$	24. $3 \pm 3i\sqrt{6}$	25. $\pm 9i$