Learning Goal 4.4 Practice

1. Mrs. Cat is trying to find a power of i that will make the following true:

$$i^? = -1$$

Write at least 3 numbers that will make the above statement true. Explain how you know you are correct.

2. Mrs. Cat is trying to find a power of i that will make the following true:

$$i^? = -i$$

For problems 5-7, simplify the powers of i. **Your answer should be either i, -1, $-i$, or 1**

3. $i^{25} =$

4. $i^{30} =$

5. $i^{52} =$

6. $3i^3 + 2i^3 =$

7. $5i^7 + 4i^4 - 5i^{12} =$

8. $2i^4 + 2i^8 + 10i^6 =$

9. $\frac{10i^4 + 6i^6}{2i^2} =$