

College Algebra

Name: _____

Study Guide 9

Class: _____

Due Date: _____

Score: _____

No Work \Leftrightarrow No Points

Use Pencil Only \Leftrightarrow Be Neat & Organized

1. (2 points) Simplify $-i\sqrt{-64} - \sqrt{-81}$.

1. _____

2. (3 points) Simplify $i^{150} - i^{75}$.

2. _____

3. (2 points) Simplify $-i\sqrt{-72} - \sqrt{-98}$.

3. _____

4. (3 points) Simplify $i^{250} - i^{120}$.

4. _____

5. (2 points) Simplify $5i(3 - 4i) - 4i(-7 - 2i)$.

5. _____

6. (2 points) Divide: $\frac{6 - 8i}{6 + 8i}$

6. _____

7. (2 points) Simplify: $(-3 - 4i)^2$

7. _____

8. (2 points) Simplify: $-\sqrt{36} - \sqrt{-98}$

8. _____

9. (2 points) Simplify: $2(3 - 4i) - 6(1 + i)$

9. _____

10. (2 points) Simplify: $(3 - 5i)(2 - 3i)$

10. _____

11. (2 points) Simplify: $\frac{2 - 3i}{5 - 2i}$

11. _____

12. (2 points) Simplify: $i^{120} - i^{63}$

12. _____

13. (2 points) Simplify: $-3i(-2 + 5i) - 6(1 + i)$

13. _____

14. (3 points) Simplify: $(3 - 5i)^2 - (3 + 5i)^2$

14. _____

15. (3 points) Simplify: $\frac{13i}{2 + 3i}$

15. _____

16. (3 points) Simplify: $i^{253} - i^{99}$

16. _____

17. (3 points) Simplify: $(2 + i)^3$

17. _____

18. (3 points) Simplify: $(3 - 2i)^2 - (3 + 2i)^2$

18. _____

19. (3 points) Simplify: $(4 + 5i)(-2 - 3i)(4 - 5i)(-2 + 3i)$

19. _____

20. Find $|Z|$:

(a) (2 points) $z = -8 - 6i$

(a) _____

(b) (2 points) $z = \frac{3}{5} - \frac{4}{5}i$

(b) _____