Name_____

Day 1 Homework--NO CALCULATORS

Period_____

Simplify each in terms of i.

1) $6\sqrt{-54}$

2) $\sqrt{-72}$

3) $-\sqrt{-100}$

4) $-3\sqrt{80}$

5) $-\sqrt{24a^2}$

6) $-\sqrt{64b^2}$

Find the radical that simplified into the following imaginary number. (Hint: backwards of what you did in 1-6)

7) $7i$

8) $5i\sqrt{5}$

Identify the real and imaginary terms of each complex number by BOXING the real part and CIRCLING the imaginary part.

9) $64 - 7i$

10) $39i$

Simplify. THEN Identify the real and imaginary terms of your answer by BOXING the real part and CIRCLING the imaginary part.

11) $(2 - 4i) - (-3 - 6i)$

12) $(-7 + i) - (-3 + 8i)$

13) $(8 + 4i) + (4 + 2i)$

14) $(2 + i) - (3 + 8i)$

15) $(-7 - 4i)^2$

16) $(7 + 6i)(-2 - 2i)$

17) $(1 + 4i)(-6 + 2i)$

18) $(-6 + 6i)(-1 - 5i)$

Find the conjugate of each complex number below. Then multiply the conjugates together to verify your answer.

19) $-1 - 3i$

20) -1

21) $3 - 5i$

22) $2 + i$

23) $3 + \sqrt{3}$

24) $4 - \sqrt{6}$

25) Bonus: $-7 + 5i\sqrt{2}$

26) Classify this polynomial based on the number of terms and degree.
$3x + x^3 - 2$