CR/Algebra 2 Name_____

Unit 1A Test Review

Date_____ Period____

Name each polynomial by degree and number of terms. (2 words for each answer)

1) $9a^4 + 5a^3$

Quartic Binomial

2) $-3k^3 - 7k^2 + 10$

Cubic Trinomial

3) $-3n + 6$

Linear Binomial

4) -3

Constant Monomial

5) $5n^4 + 7n^5 + 3n^2 + 4n$ $7n^5+5n^4+3n^2+4n$

~~Quartic~~ Polynomial

Quintic

6) $-2 + 5b - 2b^2$ $-2b^2+5b-2$

Quadratic Trinomial

Write the following polynomials in standard form.

7) $-6v^3 + 10v - 2v^6 + 5$

$-2v^6-6v^3+10v+5$

8) $1 - 7x^6 - 4x + 6x^4$

$-7x^6+6x^4-4x+1$

Simplify each expression. Write your answer in standard form.

9) $(-2b^4 - 4b) - (5b - 6b^2 - b^4)$

$(-2b^4-4b)+(-5b+6b^2+b^4)$

$-b^4+6b^2-9b$

10) $(-2x^3 + 1 - 6x^2) + (x^2 - 2x^3 - 7x^4 + 6)$

$-7x^4-4x^3-5x^2+7$

11) $(-5a^2 - 4a^4) - (2a^4 + a^2) - (6a^2 + 2a)$

$(-5a^2-4a^4)+(-2a^4-a^2)+(-6a^2-2a)$

$-6a^4-12a^2-2a$

12) $4x^3(2x - 5)$

$8x^4-20x^3$

13) $3v(v^2 - 2v - 4)$

$3v^3 - 6v^2 - 12v$

14) $(4r - 4)(5r + 2)$ $20r^2 + 8r - 20r - 8$

$20r^2 - 12r - 8$

15) $(3x - 4)(4x - 2)$

$12x^2 - 6x - 16x + 8$

$12x^2 - 22x + 8$

16) $(b + 5)(4b^2 - 5b + 2)$

$4b^3 - 5b^2 + 2b$
$20b^2 - 25b + 10$

$4b^3 + 15b^2 - 23b + 10$

Simpify the powers of i.

17) i^{244} $4\overline{)244}$ 61 R0 $= 1$

18) i^{51} $4\overline{)51}$ 12 R3 $= -i$

19) i^{86} $4\overline{)86}$ 21 R2 $= -1$

84
2

20) i^{801} $4\overline{)801}$ 200 R1 $= i$

Simplify the complex expressions.

21) $(-6 - 5i) + (-2 - 8i)$

$-8 - 13i$

22) $(7 - 4i) - (-4 - i)$

$(7 - 4i) + (4 + i)$

$11 - 3i$

23) $(-2i) - (4 + 5i) + (8i)$

$(-2i) + (-4 - 5i) + 8i$

$-4 + i$

24) $(7 + 3i)^2$

$(7 + 3i)(7 + 3i)$

$49 + 21i + 21i + 9i^2$ ($9(-1)$)

$49 + 42i - 9 = 40 + 42i$

25) $(-6 - i)(8 + 4i)$

$-48 - 24i - 8i - 4i^2$

$-44 - 32i$

26) $(-5 - 6i)(-6 - 8i)$

$30 + 40i + 36i + 48i^2$

$30 + 76i - 48$

$-18 + 76i$

27) $\frac{9 - 4i}{-7i} \cdot \frac{i}{i}$

$\frac{9i - 4i^2}{-7i^2} = \frac{9i + 4}{7} = \frac{4 + 9i}{7}$

28) $\frac{9}{(6 + 7i)} \frac{(6 - 7i)}{(6 - 7i)}$

$\frac{54 - 63i}{36 - 42i + 42i - 49i^2} = \frac{54 - 63i}{36 + 49} = \frac{54 - 63i}{85}$