Honors Algebra 2 Name_____

Unit 1 Quiz REVIEW

Date_____

Complex Operations. Show all work WITHOUT a calculator.

1) $(-2 + 8i) - (-7 + 2i)$

2) $(2i)(-7i)(7 + 4i)$

3) $(4i)(5 - 5i) + 3(7i)$

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

5) $\frac{-4 - 2i}{-6i}$

6) $\frac{5 + 4i}{3 - 9i}$

Factor each completely.

7) $x^2 - x - 56$

8) $2p^3 + 15p^2 + 25p$

9) $7v^2 - 57v + 8$

10) $5k^2 + 8k$

11) $50k^2 - 8$

12) $4x^2 + 12x + 9$

Solve each equation by factoring.

13) $2n^2 - 16n + 14 = 0$

14) $5n^2 + 42n = -49$

15) $9x^2 + 6x = 8x^2$

16) $x^2 - 12x + 4 = -8x$

Solve each equation by completing the square.

17) $r^2 - 12r - 53 = 9$

18) $a^2 + 44 = -2a$

Solve each equation by taking square roots.

19) $5x^2 - 7 = 173$

20) $5r^2 + 4 = -61$

Solve each equation with the quadratic formula.

21) $9v^2 + 2v - 1 = -3$

22) $-4x^2 + 11x + 19 = 2x^2 + 12$

23) $2n^2 - 12n = -15$

24) $x^2 - 10x = -4$

Find the discriminant of each quadratic equation then state the number and type of solutions.

25) $5n^2 + 8n - 4 = 0$

26) $-4a^2 - 6 = -a^2 - 4a$

Answers to Unit 1 Quiz REVIEW

1) $5 + 6i$
2) $98 + 56i$
3) $20 + 41i$
4) $33 + 56i$
5) $\frac{-2i + 1}{3}$
6) $\frac{-7 + 19i}{30}$
7) $(x + 7)(x - 8)$
8) $p(2p + 5)(p + 5)$
9) $(7v - 1)(v - 8)$
10) $k(5k + 8)$
11) $2(5k + 2)(5k - 2)$
12) $(2x + 3)^2$
13) $\{7, 1\}$
14) $\left\{-\frac{7}{5}, -7\right\}$
15) $\{-6, 0\}$
16) $\{2\}$
17) $\{6 + 7\sqrt{2}, 6 - 7\sqrt{2}\}$
18) $\{-1 + i\sqrt{43}, -1 - i\sqrt{43}\}$
19) $\{6, -6\}$
20) $\{i\sqrt{13}, -i\sqrt{13}\}$
21) $\left\{\frac{-1 + i\sqrt{17}}{9}, \frac{-1 - i\sqrt{17}}{9}\right\}$
22) $\left\{-\frac{1}{2}, \frac{7}{3}\right\}$
23) $\left\{\frac{6 + \sqrt{6}}{2}, \frac{6 - \sqrt{6}}{2}\right\}$
24) $\{5 + \sqrt{21}, 5 - \sqrt{21}\}$
25) 144; two real solutions
26) −56; two imaginary solutions