Algebra 2 Unit 1: Quiz Review

Name_____ ID: 1

Assignment

Date_____ Period____

**Simplify.**

1) $3+(5i)(i)$

$3+5i^2$

$-2$

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

$-9i$

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

$2i$

4) $(1+2i)(-5+5i)$

$-5+5i-10i+10i^2$

$-15-5i$

5) $(5-5i)^2$

$(5-5i)(5-5i)$

$-50i$

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

$\frac{5i-5i^2}{-2i^2}=\frac{5i+5}{2}$

7) $\frac{(-6+4i)}{(4-2i)}\ \frac{(4+2i)}{(4+2i)}$ $-8$

$\frac{-24-12i+16i+8i^2}{16-4i^2}$

$\frac{-32+4i}{20}=\frac{-8+i}{5}$

8) $\frac{(5-i)(4+2i)}{(4-2i)\ 4+2i}$ $+2$

$\frac{20+10i-4i-2i^2}{16-4i^2}=\frac{22+6i}{20}$ $+4$

$=\frac{11+3i}{10}$

9) $\frac{2}{6-6i}\ \frac{6+6i}{6+6i}$

$\frac{12+12i}{36-36i^2}=\frac{12+12i}{72}=\frac{1+i}{6}$ $+36$

10) $\sqrt{-32}$ $16\cdot 2$

$4i\sqrt{2}$

11) $\sqrt{-125}$ $25\cdot 5$

$5i\sqrt{5}$

12) $\sqrt{-50}$ $25\cdot 2$

$5i\sqrt{2}$

**Solve each equation by taking square roots.**

13) $p^2 = 64$

$p = \pm 8$

14) $p^2 + 3 = -9$

$p^2 = -12$

$p = \pm 2i\sqrt{3}$

**Factor each completely.**

15) $a^2 - 3a$

$a(a-3)$

16) $7k^2 - 30k + 8$

$(7k-2)(k-4)$

17) $5n^2 + 13n - 6$

$(5n-2)(n+3)$

18) $5m^2 - 21m + 4$

$(5m-1)(m-4)$

**Solve each equation by factoring.**

19) $n^2 - 6n - 7 = 0$

$(n-7)(n+1) = 0$

$n = 7, -1$

20) $m^2 - 4m - 32 = 0$

$(m-8)(m+4)$

$m = 8, -4$

21) $x^2 - 3x = 0$

$x(x-3) = 0$

$x = 0, 3$

22) $3n^2 - n - 10 = 0$

$(3n+5)(n-2) = 0$

$n = -5/3, 2$

23) $3a^2 - 8a - 3 = 0$

$(3a+1)(a-3) = 0$

$a = -\frac{1}{3}, 3$

24) $5n^2 + 7n - 6 = 0$

$(5n-3)(n+2) = 0$

$n = 3/5, -2$