Name_____ ID: 1

Unit 1 Quiz 2 Review

Date_____ Period____

1) What is i^{115}?

2) What is i^{13}?

3) What is i^{53}?

4) What is i^{454}?

Simplify.

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

6) $(4 - 2i) + (7 + i)$

7) $(-5 - 6i) - (5 + 7i)$

8) $(-3 + 5i) - (-7 - i)$

9) $(-5 + 5i)(6 + i)$

10) $(-2 - 2i)(4 - 4i)$

11) $(2 - 6i)(-5 - 2i)$

12) $(-1 + 6i)(-7 + 7i)$

13) What is the conjugate of $5 - i$?

14) What is the conjugate of $-6 + 9i$?

Simplify.

15) $\dfrac{7 + 3i}{7 - i}$

16) $\dfrac{9 - 7i}{-2 - 2i}$

17) $\dfrac{-5 - 5i}{10 + 2i}$

18) $\dfrac{-1 - 9i}{6 - 3i}$

Solve each equation by factoring.

19) $(7x - 3)(x - 1) = 0$

20) $(m + 4)(7m + 2) = 0$

21) $a^2 - 2a - 18 = 6$

22) $x^2 + 13x + 42 = 2$

23) $5x^2 + 39x + 28 = 0$

24) $2x^2 + 5x - 12 = 0$

Solve each equation by completing the square.

25) $r^2 + 2r - 96 = 0$

26) $a^2 - 6a - 55 = 0$

27) $8x^2 + 16x - 6 = 4$

28) $2x^2 + 8x - 22 = 0$

Name_____ ID: 1

Unit 1 Quiz 2 Review

Date_____ Period____

1) What is i^{115}?

   $-i$

2) What is i^{13}?

   i

3) What is i^{53}?

   i

4) What is i^{454}?

   -1

Simplify.

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

   $12 + 11i$

6) $(4 - 2i) + (7 + i)$

   $11 - i$

7) $(-5 - 6i) - (5 + 7i)$

   $-10 - 13i$

8) $(-3 + 5i) - (-7 - i)$

   $4 + 6i$

9) $(-5 + 5i)(6 + i)$

   $-35 + 25i$

10) $(-2 - 2i)(4 - 4i)$

   -16

11) $(2 - 6i)(-5 - 2i)$

   $-22 + 26i$

12) $(-1 + 6i)(-7 + 7i)$

   $-35 - 49i$

13) What is the conjugate of $5 - i$?

   $5 + i$

14) What is the conjugate of $-6 + 9i$?

   $-6 - 9i$

Simplify.

15) $\dfrac{7+3i}{7-i}$

$\dfrac{23+14i}{25}$

16) $\dfrac{9-7i}{-2-2i}$

$\dfrac{-1+8i}{2}$

17) $\dfrac{-5-5i}{10+2i}$

$\dfrac{-15-10i}{26}$

18) $\dfrac{-1-9i}{6-3i}$

$\dfrac{7-19i}{15}$

Solve each equation by factoring.

19) $(7x-3)(x-1)=0$

$\left\{\dfrac{3}{7}, 1\right\}$

20) $(m+4)(7m+2)=0$

$\left\{-4, -\dfrac{2}{7}\right\}$

21) $a^2-2a-18=6$

$\{-4, 6\}$

22) $x^2+13x+42=2$

$\{-8, -5\}$

23) $5x^2+39x+28=0$

$\left\{-\dfrac{4}{5}, -7\right\}$

24) $2x^2+5x-12=0$

$\left\{\dfrac{3}{2}, -4\right\}$

Solve each equation by completing the square.

25) $r^2+2r-96=0$

$\left\{-1+\sqrt{97}, -1-\sqrt{97}\right\}$

26) $a^2-6a-55=0$

$\{11, -5\}$

27) $8x^2+16x-6=4$

$\left\{\dfrac{1}{2}, -\dfrac{5}{2}\right\}$

28) $2x^2+8x-22=0$

$\left\{-2+\sqrt{15}, -2-\sqrt{15}\right\}$