Name _____ Date _____ Period _____

LT 4.1-4.2 Quick Check #2 LT 4.1-4.2a
Good luck!

Simplify

1) $(4 + 3i)(2 - 5i)$

$8 - 20i + 6i - 15i^2$

$\boxed{23 - 14i}$

2) $(28 - 4i) - (10 - 30i)$

$28 - 4i - 10 + 30i$

$\boxed{18 + 26i}$

3) $\sqrt{-15} \cdot \sqrt{-10}$

$i^2\sqrt{3 \cdot 5 \cdot 2 \cdot 5}$

$\boxed{-5\sqrt{6}}$

4) $\frac{2-4i}{1+3i} \cdot \frac{1-3i}{1-3i}$

$\frac{2 - 6i - 4i + 12i^2}{1 - 3i + 3i - 9i^2}$

$\frac{-10 - 10i}{10}$

$\boxed{-1 - i}$

Solve using the quadratic formula

5) $x^2 - 8x + 9 = 0$

$x = \frac{-(-8) \pm \sqrt{(-8)^2 - 4(1)(9)}}{2(1)} = \frac{8 \pm \sqrt{64 - 36}}{2}$

$x = \frac{8 \pm 2\sqrt{7}}{2} = \boxed{4 \pm \sqrt{7}}$

Good luck!

6) $x^2 - 21 - 4x = 0$

$x = -3, 7$

7) $4x^2 - 4x + 17 = 0$

$x = \frac{1 \pm 4i}{2}$ $x = \frac{1}{2} \pm 2i$

Solve the quadratic equation

8) $-2x^2 - 6 = 0$

$x = i\sqrt{3}$

Name _____ Date _____ Period _____

LT 4.1-4.2 Quick Check #2

Good luck!

LT 4.1-4.2

Simplify

1) $(10 - 4i) - (7 + 3i)$

$10 - 4i - 7 - 3i$

$\boxed{3 - 7i}$

2) $(8 - 11i)(8 - 11i)$

$64 - 88i - 88i + 121i^2$

$\boxed{-57 - 176i}$

3) $\sqrt{-8} \cdot \sqrt{-32}$

$i^2\sqrt{8 \cdot 8 \cdot 4}$

$-8 \cdot 2 = \boxed{-16}$

4) $\frac{3-i}{2-i} \cdot \frac{2+i}{2+i} =$

$\frac{6+3i-2i-i^2}{4+2i-2i-i^2}$

$\frac{7+i}{5}$

$\frac{7}{5} + \frac{1i}{5}$

Solve using the quadratic formula

5) $x^2 + 8x + 13 = 0$

$x = \frac{-8 \pm \sqrt{8^2 - 4(1)(13)}}{2(1)} = \frac{-8 \pm \sqrt{12}}{2} = \frac{-8 \pm 2\sqrt{3}}{2}$

$\boxed{x = -4 \pm \sqrt{3}}$

Good luck!

6) $x^2 - 11 - 10x = 0$

$x = 11, -1$

7) $x^2 - 4x + 15 = 0$

$x = 2 \pm i\sqrt{11}$

Solve the quadratic equation

8) $-5x^2 - 65 = 0$

$x = i\sqrt{13}$

Name _____ Date _____ Period _____

LT 4.1-4.2 Quick Check #2 LT 4.1-4.2H
Good luck!

Simplify

1) $(10 + 15\iota) - (48 - 30\iota)$

$10+15i-48+30i$

$-38+45i$

2) $\frac{2}{7-8\iota}$ $\frac{7+8i}{7+8i}$

$\frac{14+16i}{49-64i^2} = \frac{14+16i}{113}$

$\frac{14}{113} + \frac{16i}{113}$

Solve using the quadratic formula

3) $8x^2 + 1 = 4x$

$8x^2-4x+1=0$

$x = \frac{-(-4) \pm \sqrt{(-4)^2-4(8)(1)}}{2(8)}$

$x = \frac{1 \pm i}{4}$

4) $2x^2 + 6x - 7 = 0$

$x = \frac{-3 \pm \sqrt{23}}{2}$

LT 4.1-4.2 Quick Check #2 LT 4.1-4.2H

Good luck!

5) $x^2 - 4x + 15 = 0$

$x = 2 \pm i\sqrt{11}$

Solve the quadratic equation

6) $\frac{-5}{6}x^2 - 25 = 0$

$x = i\sqrt{30}$

Simplify each expression. Assume that no variable equals to 0.

7) $\left(\frac{-2a^4}{b^2}\right)^3$

$\frac{(-2)^3 a^{12}}{b^6}$

$\frac{-8a^{12}}{b^6}$

8) $(2x^{-3}y^3)^2(-7x^5y^{-6})$

$(4x^{-6}y^6)(-7x^5y^{-6})$

$-28x^{-1}y^0$

$\frac{-28}{x}$