Name _____

Practice: C-Level

1. **Working with** i. Simplify each expression:

Remember $i = \sqrt{-1}$, $\quad i^2 = -1$

a) $\sqrt{-100}$	b) $-4\sqrt{-25}$	c) $3\sqrt{-144}$
d) $-9i + +5i$	e) $8(-9i)$	f) $(-4i)(2i)$
g) $(8i)^2$	h) $-6i^2$	i) $(-5i^2)(-3i)^2$
j) $(6 + 3i) + (5 - 4i)$	k) $(15 + 8i) - (19 + 5i)$	l) $3(4 - 2i) - (5 - 6i)$
m) $(3 + 4i)(3 - 4i)$	n) $(10 + 2i)(10 - 2i)$	o) $(6 + i)(6 - i)$

Rationalize the denominator:

p) $\dfrac{1}{5i}$	q) $\dfrac{5}{i}$	r) $\dfrac{-5}{2i}$

2. Practice: B-Level

a) $-4\sqrt{-32}$	b) $5\sqrt{-288}$	c) $-3\sqrt{-18}$
d) $8i^3$	e) $6i^4$	f) $7i^6$
Rationalize the denominator:		
g) $\dfrac{5}{3+i}$	h) $\dfrac{1+2i}{4+i}$	i) $\dfrac{1+3i}{6-i}$

3. **Looking ahead:**
Solve for x:

a). $0 = x^2 + 25$ b). $0 = -5x^2 - 125$

Find the equations of a quadratic that has the following roots.

c) $(-\sqrt{7},0)$ and $(-\sqrt{7},0)$ d) $(\sqrt{5},0)$ and $(-\sqrt{5},0)$

Factored form: _____   Factored form: _____

Standard form: _____   Standard form: _____