9, 27, 24, 21, 12

9. $-4i(-2+i)$

$8i - 4i^2$

$8i + 4$

$4 + 8i$

12. $(4+i)(4-i)$

$16 - \cancel{4i + 4i}^{0} - i^2$

$16 + 1 = 17$

21. $(2-4i)^2$

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

$4 - 8i - 8i + 16i^2$

$4 - 16i - 16$

$-12 - 16i$

24. $(3+i\sqrt{5})^2$

$(3+i\sqrt{5})(3+i\sqrt{5})$

$9 + 3i\sqrt{5} + 3i\sqrt{5} + i^2\sqrt{25}$

$9 + 6i\sqrt{5} - 5$

$4 + 6i\sqrt{5}$

27. $(\sqrt{2}-\sqrt{-5})(\sqrt{2}+\sqrt{-5})$

$(\sqrt{2}-i\sqrt{5})(\sqrt{2}+i\sqrt{5})$

$\sqrt{4}+i\sqrt{10}-i\sqrt{10}^{0}-i^{2}\sqrt{25}$

$2+5=\boxed{7}$

HW Assessment

4/21

Baker

21. $(2-4i)^2$

SHOW WORK!!

Complex Conjugates

$4i \cdot i = 4i^2 = -4$

You make imaginary numbers real by multiplying by i. or by squaring it. x^2

$(4i)^2 = 16i^2 = -16$

$(4+3i)i = 4i + 3i^2 = -3 + 4i$

$(4+3i)^2$

$(4+3i)(4+3i)$

$16 + 12i + 12i + 9i^2$

$16 + 24i - 9$

$7 + 24i$

complex conjugate

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

$16 - 12i + 12i - 9i^2$

$16 + 9 = 25$

$7+5i \rightarrow 7-5i$

$3.5-2i \rightarrow 3.5+2i$

$3-2i^{*} = 3+2i$

your turn

multiply $7-3i$ by its complex conjugate