November 30, 2011

Get out your homework:

Pink Worksheet CN-2

43) $ti\sqrt{-4t^2} + \sqrt{4t^4} - t^2 i\sqrt{-9}$

$= 2t^2 i^2 + 2t^2 - t^2 i^2 \cdot 3$

$= \cancel{-2t^2} \cancel{+2t^2} + 3t^2$

$= 3t^2$

11/30 - Adding, Subtracting and Multiplying Complex Numbers

Complex Numbers are always in the form:

$$a + bi$$

real part imaginary part

Sometimes the imaginary part is missing

-11 25

Sometimes the real part is missing

3i 7i

Add/Subtract

$(3+4i)+(-8-5i)$

$=-5-i$

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

$=-1+i$

$(9-5i)+(-2-8i)$

$=7-13i$

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

$=5+10i$

Multiply

$(2-5i)(3+7i)$ FOIL

$= 6 + 14i - 15i + 35\cancel{i^2}$

$= 41 - i$

$(8+4i)(9-i)$

$= 72 - 8i + 36i + 4\cancel{i^2}$

$= 76 + 28i$

$(2-i)^2$

$= (2-i)(2-i)$

$= 4 - 2i - 2i + \cancel{1i^2}$

$= 3 - 4i$

$(2+i)^3$

$= (2+i)(2+i)(2+i)$

$= (4 + 2i + 2i + \cancel{i^2})(2+i)$

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

$= 6 + 3i + 8i + 4\cancel{i^2}$

$= 2 + 11i$

Homework:

Worksheet CN-3
#1-20 all

Due