"conjugate" (in terms of mathematics)

Ex. $3+2i$ $3-2i$ $\quad 8+7i$ $8-7i$

$4-i$ $4+i$ $\quad 0-2i$ $0+2i$

★ No imaginary #s in denominator b/c $i=\sqrt{-1}$; Cannot have $\sqrt{}$ in denom.

★ Multiply by the conjugate.

1) $\frac{4}{10i}\cdot\frac{-10i}{-10i}=\frac{-40i}{-100i^2}=\frac{-40i}{-100(-1)}$

$=\frac{-40i}{100}=\frac{-2i}{5}$

4) $\frac{-5}{-i}\cdot\frac{i}{i}=\frac{-5i}{-i^2}=\frac{-5i}{1}=-5i$

6) $\frac{10}{(-1-8i)}\cdot\frac{(-1+8i)}{(-1+8i)}=\frac{-10+80i}{1-64i^2}$

$=\frac{-10+80i}{1+64}=\frac{-10+80i}{65}$

$=\frac{-2+16i}{13}$

2) $\frac{8}{4+8i}\cdot\frac{(4-8i)}{(4-8i)}=\frac{32-64i}{16-64i^2}$ $\quad (-64(-1))$ $\quad \frac{32-64i}{80}$

$=\frac{2-4i}{5}$

Jan 19-8:14 AM

Have out HW, HW log, and note book to take notes please. :)

$f(x)=x^5 \qquad g(x)=x^3+20x$

Solve $f(x)-g(x)=0$

$x^5-(x^3+20x)=0$

$x^5-x^3-20x=0$

$x(x^4-x^2-20)=0$

$a=1 \quad b=-1 \quad c=-20$

$x=0$

$x^2=\frac{1\pm\sqrt{1+80}}{2}=\frac{1\pm 9}{2}$

$x^2=5$ $\quad x=\pm\sqrt{5}$

$x^2=-4$ $\quad x=\pm\sqrt{-4}$ $\quad x=\pm\sqrt{4}\sqrt{-1}$ $\quad x=\pm 2i$

Jan 19-8:12 AM

Options:

- work on dividing HW rest of sheet (due tomorrow)

- work on Applications project

(due at end of class tomorrow)

- work on midterm review, make the most, etc.

Jan 19-8:13 AM