Dividing Complex Numbers **Name:** _____

 Period:

For the problem below, fill in the blanks.

1)

$$\frac{2+3i}{4-i}\cdot\frac{4\quad i}{4\quad i}=\frac{8+\quad i+\quad i+3i^2}{16+\quad i+\quad i-i^2}=\frac{8+\quad i+3i^2}{16-i^2}=\frac{8+14i+3(\quad)}{16-(\quad)}$$

2) Write the final answer to problem #1 in $a+bi$ form. The answer is:

Divide these complex numbers and write your solutions in $a+bi$ form. Use MATHguide's online lesson for help.

3) $\dfrac{2+i}{3+2i}$

4) $\dfrac{1-5i}{2+i}$

5) $\dfrac{3-5i}{5i-3}$

6) $\dfrac{c-di}{di-c}$

Hint: Review problem #5.

7) $\dfrac{na+nbi}{a+bi}=n$

Explain why this is true.

The shortest route between two truths in the real domain passes through the complex domain.
- Dr. Jacques Salomon Hadamard, Awarded the *Grand Prix des Sciences Mathématiques.*