

parentheses

1.6 (continued) & 1.7
Wednesday August 21, 2019

$$(\quad) + (\quad)$$

COMBINE LIKE TERMS

$$(\quad) - (\quad)$$

CHANGE SIGNS IN 2ND (\quad)

COMBINE LIKE TERMS

$$(\quad)(\quad)$$

FOIL / Distribute

complex conj
change sign in
middle of $a+bi$

16 $\frac{-8-5i}{-4i} \cdot \frac{4i}{4i}$ Multiply the complex conjugate to top/bottom

$$\frac{(-8-5i)(4i)}{-4i(4i)}$$

~~distribute~~
distribute/multiply

$$\frac{-32i - 20i^2}{-16i^2}$$

change i^2 to -1

$a+bi$ $\frac{-32i - 20(-1)}{-16(-1)}$

$$\frac{-32i + 20}{16} = \frac{20}{16} - \frac{32i}{16}$$

split up your fraction into 2 fractions

$$= \frac{5}{4} - \frac{8i}{4} = \left(\frac{5}{4} - 2i\right)$$

Reduce & put in $a+bi$ form

Powers of i

(18) $\frac{7i}{6+9i} \cdot \frac{6-9i}{6-9i}$

$$\frac{7i(6-9i)}{(6+9i)(6-9i)}$$

$$\frac{42i - 63i^2}{36 - 54i + 54i - 81i^2}$$

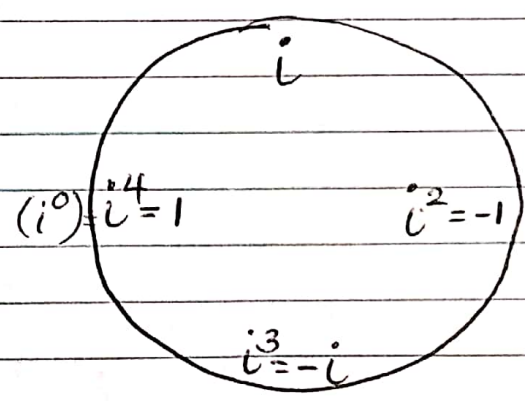
$$\frac{42i - 63(-1)}{36 - 81(-1)}$$

$$\frac{42i + 63}{36 + 81}$$

$$\frac{42i + 63}{117}$$

$$\frac{63}{117} + \frac{42i}{117}$$

$i^0 = 1$	Rule OF 4
$i^1 = i$	
$i^2 = -1$	
$i^3 = -i$	
$i^4 = 1$	



$$\begin{array}{r} 3 \\ 4 \overline{) 14} \\ \underline{-12} \\ (2)R \end{array}$$

$$\begin{array}{r} 31 \\ 4 \overline{) 125} \\ \underline{-124} \\ 05 \\ \underline{-4} \\ 1 \end{array}$$

$$i^{10} = -1$$

$$i^{33} = i$$

$$i^{125} = i$$

Divide the exponent by 4
The remainder is the new exponent of i