

Multiplying Complex #'s

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

$$-3i + 1$$

$$18) -2i(1+4i)$$

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$$18) -2i(1+4i)$$

$$-2i - 8i^2$$

$$-2i - 8(-1)$$

$$-2i + 8$$

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FOIL

$$(2+3i)(-6-2i)$$

$$-12 - 4i - 18i - 6i^2$$

$$-12 - 4i - 18i + 6$$

$$-6 - 22i$$

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$$16) (-3+i)(8+5i)$$

$$-24 - 15i + 8i + 5i^2$$

$$-24 - 15i + 8i - 5$$

$$-29 - 7i$$

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Conjugate: $(5-3i)(5+3i)$

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

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

$$4 + 16 = 20$$

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$$(2-2i)(2+2i)$$

$$4 + 42i - 42i - 44i^2$$

$$4 + 44 = 48$$

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Dividing Complex:

$$20) \frac{(5-2i) \cdot (3-8i)}{(3+8i)(3-8i)}$$

$$\frac{15-40i-6i+16i^2}{9-24i+24i-64i^2}$$

$$\frac{15-40i-6i-16}{9-24i+24i+64} = \frac{-1-46i}{73}$$

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$$21) \frac{(3+11i)(-1+2i)}{(-1-2i)(-1+2i)}$$

$$\frac{-3+6i-11i+22i^2}{1-2i+2i-4i^2}$$

$$\frac{-3+6i-11i-22}{1-2i+2i+4} = \frac{-25-5i}{5} = -5-i$$

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$$24) \frac{(6-3i)(-2i)}{2i} = \frac{-12i+6i^2}{2i}$$

$$\frac{-12i-6}{2i} = \frac{-6i-3}{i}$$

$$\frac{(6-3i)(-i)}{2i(-i)} = \frac{-6i+3i^2}{-2i^2}$$

$$\frac{-6i-3}{2}$$

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$$25) \frac{(5+6i)(3i)}{-3i(3i)}$$

$$\frac{15i+18i^2}{-9i^2} = \frac{15i-18}{9}$$

$$= \frac{5i-6}{3}$$

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$$23) (8-5i)^2$$

$$(8-5i)(8-5i)$$

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