

Home-
work
Review

⑥ $|4-5i|$

$$\Rightarrow \sqrt{(4^2) + (-5)^2}$$

$$\sqrt{16+25} = \boxed{\sqrt{41}}$$

$$|a+bi| = \sqrt{a^2 + b^2}$$

Absolute Value of
a Complex Number
"Distance From origin"

⑫ $(2+5i) + (-2+5i)$ $a+bi$ form

$$10i = \boxed{0+10i}$$

⑬ $(3+4i) + (-2-4i)$

$$\boxed{1}$$

⑭ $(1-2i)(1+2i) = 1^2 + 4 = \boxed{5}$

$$\boxed{5+0i}$$

$$\begin{aligned}
 \textcircled{30} \quad \frac{5-4i}{i} \cdot \frac{i}{i} &= \frac{5i - 4(-1)}{-1} \\
 &= \frac{5i + 4}{-1} = \boxed{-4 - 5i}
 \end{aligned}$$

$$\begin{aligned}
 \textcircled{33} \quad \frac{17}{4+i} \cdot \frac{4-i}{4-i} &= \frac{68 - 17i}{16 + 1} \\
 &= \frac{68 - 17i}{17} = \boxed{4 - i}
 \end{aligned}$$

$$\begin{aligned} \textcircled{13} \quad |-5 + 2i| &= \sqrt{(-5)^2 + (2)^2} \\ &= \boxed{\sqrt{29}} \end{aligned}$$

$$\begin{aligned} \textcircled{31} \quad &(-5 - 4i)^2 \\ &\quad \quad \quad \curvearrowright \\ &(-5 - 4i)(-5 - 4i) \\ &\quad \quad \quad \curvearrowleft \end{aligned}$$

$$25 + 20i + 20i + 16(-1)$$

$$\boxed{9 + 40i}$$

Finding A Quadratic "In the Wild"

* Quad. Function $ax^2 + bx + c = y = f(x) = \text{parabola}$

Quad. Equation $ax^2 + bx + c = 0 = \text{zeros or roots}$
 "x-intercepts"

- Look for GCF
- Look for PST pattern $a^2 \pm 2ab + b^2$
- Look for DOS pattern $a^2 - b^2$
- $b = 0 \Rightarrow$ square root both sides
- $c = 0 \Rightarrow$ factor x out
- If $d = PS \Rightarrow$ magic numbers

$$x = \frac{-b \pm \sqrt{d}}{2a}$$

- CAN ALWAYS solve QE with Q Formula

* Vertex form of QUAD. Function

$$\Rightarrow y = a(x-h)^2 + k$$

- $ax^2 + bx + c = 0 \Rightarrow$ Vertex Form $\Rightarrow$ CTS
- $y = a(x-h)^2 + k \Rightarrow$ Function Form $\Rightarrow$ Foil, etc.
- graph using AOS, Vertex, and "smart" T-table