

x-int: $x=3, x=6$ (pt: $(1, 16)$)

① Factored form using x-int:

$$f(x) = A(x-3)(x-6)$$

② Plug in pt

$$16 = A(-2)(-5)$$
$$\quad \quad \quad \downarrow$$
$$\quad \quad \quad = 10A$$

$$16 = 10A \Rightarrow A = 8/5$$

③ Final ans:

$$f(x) = \frac{8}{5}(x-3)(x-6)$$
$$\quad \quad \quad \downarrow$$
$$\quad \quad \quad = \frac{8}{5}(x^2 - 9x + 18)$$

$$\frac{18}{5}x^2 - \frac{72}{5}x + \frac{144}{5}$$

$$\frac{2+4i}{3+4i} \left(\frac{3-4i}{3-4i} \right) = \frac{(2+4i)(3-4i)}{3^2 - \underline{(4i)^2}}$$

$$\quad \quad \quad -4$$
$$6 - 8i + 3i - 4i^2 \rightarrow 10 - 5i$$

$$\frac{9 + 16}{25} = \frac{25}{25} = 1$$

$$\frac{2}{5} - \frac{1}{5}i$$

$$x = \frac{2}{5}$$

$$y = -\frac{1}{5}$$

$$(x-2)^2 = 1+x$$

$$\Rightarrow x^2 - 4x + 4 = 1 + x$$

$$\begin{array}{r} -x - 1 \\ \hline \end{array} \quad \begin{array}{r} -1 - x \\ \hline \end{array}$$

$$x^2 - 5x + 3 = 0$$

$$x = \frac{5 \pm \sqrt{5^2 - 4 \cdot 1 \cdot 3}}{2}$$

$$= \frac{5 \pm \sqrt{25 - 12}}{2} = \frac{5 \pm \sqrt{13}}{2}$$

$$x = \frac{5 + \sqrt{13}}{2}, \frac{5 - \sqrt{13}}{2}$$

$$\underline{x\text{-int}} \quad x = 1, 3$$

$$f(x) = A \underline{(x-1)(x-3)}$$

$$2 = f(0) = A(-1)(-3)$$

$$A = 2/3$$

$$\rightarrow f(x) = \frac{2}{3} [x^2 - 4x + 3]$$

$$= \frac{2}{3}x^2 - \frac{8}{3}x + 2$$

$$x^2 - 10x + 29 = 0$$

$$x = \frac{10 \pm \sqrt{100 - 4(29)}}{2} = \frac{10 \pm \sqrt{-16}}{2}$$

$$= \frac{10 \pm 4i}{2}$$

$$\frac{404}{101 \cdot 4}$$

$$x = \frac{6 \pm 2\sqrt{101}i}{44}$$

$$\sqrt{404}i$$

$$= \frac{3}{22} \pm \frac{\sqrt{404}}{22}$$



