

Step III

Compute

$$x_3 = x_2 - \frac{2c}{b - \sqrt{b^2 - 4ac}}$$

$$x_3 = x_2 + \frac{12}{-3 - \sqrt{9 - 48}} = 0.25 + 1.5612i$$

$$= 1 + \frac{2(-6)}{-3 \pm \sqrt{9 - 4(-6)(-2)}}$$

$$= 1 - \frac{-12}{-3 \pm \sqrt{9 - 48}}$$

$$= 1 + \frac{12}{-3 \pm \sqrt{-39}} = 1 + \frac{12}{-3 \pm \sqrt{39}i}$$

$$= 1 + \frac{12}{-3 \pm 6.244i} = 1 + \frac{12}{-3 - 6.244i}$$

$$= \frac{-3 - 6.244i + 12}{-3 - 6.244i} = \frac{9 - 6.244i}{-3 - 6.244i}$$

$$= \frac{3 - 2.08i}{-1 - 2.08i} \times \frac{-1 + 2.08i}{-1 + 2.08i}$$

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$$-3 + 6.08i + 2.08i + (2.08)^2$$

$$(-1)^2 + (2.08)^2$$

$$1.32 + 8.08i$$

1+

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$$0.248 + 1.51i$$