KEY

Find complex solutions to a quadratic equation.

1. $x = \dfrac{1 \pm \sqrt{15}\ i}{4}$

2. $x = \dfrac{5 \pm \sqrt{23}\ i}{4}$

3. $x = \dfrac{5 \pm 2\sqrt{2}\ i}{3}$

4. $x = \dfrac{-3 \pm \sqrt{101}\ i}{11}$

5. $x = \dfrac{-3 \pm \sqrt{111}\ i}{12}$

6. $x = \dfrac{3 \pm \sqrt{87}\ i}{16}$

7. $x = \dfrac{-1 \pm 5\sqrt{23}\ i}{24}$

8. $x = \dfrac{-3 \pm \sqrt{57}\ i}{11}$

9. $x = \dfrac{2 \pm \sqrt{62}\ i}{6}$

10. $x = \dfrac{1 \pm \sqrt{5}\ i}{2}$

11. $x = \dfrac{1 \pm \sqrt{119}\ i}{6}$

12. $x = \dfrac{-7 \pm \sqrt{239}\ i}{12}$