1. $x = 5$

2. $x = 4$ and $x = 2$

3. $x = 2$ and $x = -4$

4. $x = \pm\dfrac{\sqrt{15}}{\sqrt{2}}$ or $\pm\dfrac{\sqrt{30}}{2}$; square roots; The equation can be written in the form $u^2 = d$.

5. $x = 1$ and $x = -\frac{2}{3}$; factoring; The equation can be factored.

6. $x = -3 \pm 2\sqrt{2}$; square roots; The equation can be written in the form $u^2 = d$.

7. $x = 2$ and $y = -6$

8. $-2 + 8i$

9. $2 + 16i$

10. $14 - 22i$

11. $\pm i\dfrac{\sqrt{2}}{3}$; no; The zeros are imaginary, so the graph of the function does not intersect the x-axis.

12. $x = 3 \pm i$

13. $x = -6 \pm 4\sqrt{2}$

14. $x = -3 \pm i$

15. $y = (x - 5)^2 - 21$; $(5, -21)$

16. a. $600\ ft^2$
    b. $1064 = (30 + x)(20 + x)$
    c. $8\ ft$

17. $(7 + 3i)$ ohms

18. a. $20\ ft$
    b. about 2.12 sec