Answers to Classwork Zeros of Polynomial Functions

1. $\pm 1, \pm 2, \pm 5, \pm \frac{1}{3}, \pm \frac{2}{3}, \pm \frac{5}{3}, \pm \frac{10}{3}, \pm 10$

2. $\pm 1, \pm 2, \pm 3, \pm 6, \pm \frac{1}{2}, \pm \frac{3}{2}$

3. $\left\{\frac{1}{2}, \pm 1\right\}$

4. $\{-2, 1\}$

5. $\left\{-2, -\frac{1}{2}, \frac{1}{3}, 2\right\}$

6. $\left\{-1, \frac{3}{2}, 1\right\}$

7. $\left\{\pm\sqrt{6}, -\frac{1}{2}\right\}$

8. $\left\{1 \pm \sqrt{5}, 2\right\}$

9. $\left\{1 \pm \sqrt{2}, -1, \frac{2}{3}\right\}$

10. $\left\{-1 \pm i\sqrt{3}, 2\right\}$

11. $\left\{\frac{-1 \pm \sqrt{5}}{2}, -1, \frac{1}{4}\right\}$

12. $\left\{-2, 1 \pm \sqrt{7}\right\}$

13. $\left\{\frac{1 \pm 2\sqrt{2}}{2}, -1\right\}$

14. $\left\{\frac{-5 \pm i\sqrt{55}}{4}, -1, 2\right\}$

15. $\left\{-3, 1, 1 \pm i\sqrt{2}\right\}$

16. $\left\{\pm i, \frac{3}{2}\right\}$

17. $\{\pm 2, \pm i, 3\}$

18. $Roots: \{1 \pm i, \pm 2i\}$
$f(x) = (x - 1 + i)(x - 1 - i)(x - 2i)(x + 2i)$

19. $f(x) = x^3 - 3x^2 + 4x - 12$