3-2 Intercepts and Zeros

Name: _____   Time› Start: _____ Finish: _____ Total Time = _____

In 1-7, find the x-intercepts and the y-intercepts of the given equations doing so algebraically.

1. $f(x) = 2x - 6$ x-intercept = _____   y-intercept = _____

2. $f(x) = x^2 + 8x + 12$ x-intercept = _____   y-intercept = _____

3. $f(x) = 3\left| x - 1 \right| - 6$ x-intercept = _____   y-intercept = _____

4. $f(x) = \sqrt{x+9}$ x-intercept = _____   y-intercept = _____

5. $f(x) = (x - 2)(x + 5)$ x-intercept = _____   y-intercept = _____

6. $f(x) = x^2 - 16$ x-intercept = _____   y-intercept = _____

7. $f(x) = x^2 + 21x + 20$ x-intercept = _____   y-intercept = _____

In 8-12, use DESMOS to graph the equations and find the x-intercepts and y-intercepts.

8. $f(x) = (x + 3)^2 - 4$ x-intercept = _____   y-intercept = _____

9. $f(x) = -2\left| x + 3 \right| + 6$ x-intercept = _____   y-intercept = _____

10. $f(x) = \sqrt{2x - 10}$ x-intercept = _____   y-intercept = _____

11. $f(x) = \sqrt[3]{x - 8}$ x-intercept = _____   y-intercept = _____

12. $f(x) = \left| x - 3 \right| + 4$ x-intercept = _____   y-intercept = _____

Fill in the blank.

13. zeros = roots = x-intercepts = _____

14. roots = x-intercepts = solutions = _____

15. solutions = zeros = roots = _____

16. solutions = x-intercepts = zeros = _____