

# Test Review

## Unit 3—Solving Functions Test Review 2019-20

Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

Solve each of the following functions for  $x$ . State the restrictions if there are any. Leave answers as fractions or simplified radicals. Show work!

1.  $3x + 5 = -13$

2.  $x^2 + 3x - 10 = 0$

3.  $5x^3 + 4 = -36$

4.  $-|2x - 1| + 4 = 3$

5.  $2\sqrt{x-1} - 7 = 3$

6.  $\sqrt[3]{7x-3} + 2 = 0$

7.  $\frac{14}{x^2-25} - \frac{4}{x+5} = \frac{2}{x-5}$

8.  $3(2x - 6) = 4x + 10$

9.  $\frac{7x-2}{x+10} = 1$

10.  $3\sqrt[4]{3x-2} = 6$

11.  $0 = (x - 6)(x + 2)(3x - 1)$

12.  $\frac{x^2-35}{x^2-3x} = \frac{1}{x^2-3x}$

13.  $x^2 + 10x = -8$

14.  $\frac{1}{2}|x + 4| = 9$

15.  $-3x^4 - 6 = -15$

16.  $12 = 2x^2 - 5x$

17.  $(x^2 - 9)(2x + 5) = 0$

18.  $\frac{1}{x^2 + 3x - 10} = \frac{1}{2} - \frac{4}{x + 5}$

19.  $-8 = -2\sqrt{4x - 3} + 20$

20.  $\frac{7x}{x + 6} = 6 - \frac{42}{x + 6}$

21.  $\frac{12}{x^2 - x - 12} = \frac{3}{x - 4} + \frac{6}{x + 3}$

Solve for the specified variable. Show work!

22.  $y = \frac{2x-1}{x+5}$  for  $x$

23.  $h = \frac{v_0^2 y}{2g}$  for  $y$

24.  $Q = \frac{P_2 - P_1}{R}$  for  $R$

25.  $Z = \sqrt{R^2 + (X_L - X_C)^2}$  for  $R$