FINAL REVIEW WORKSHEET
COLLEGE ALGEBRA

Chapter 1.

1. *Given the following equations, which are functions?*

    (A) $y^2 = 1 - x^2$ **(B)** $y = 9$ **(C)** $y = x^3 - 5x$

    (D) $5x + 2y = -10$ **(E)** $y = \pm\sqrt{1 - 2x}$ **(F)** $y = \frac{3}{x} + 5$

    a. *all of the above*   **b.** *none of the above*   **c.** $B, C, D,$ *and* F

    d. C, D, F **e.** *C only*   **f.** *C and F*

2. *Given* $f(x) = \frac{x^2-1}{x+4}$, *find* $f(-3)$.

    a. -10 **b.** 10 **c.** -8 **d.** 8 **e.** $\frac{8}{7}$

3. *Given* $f(x) = \frac{x^2+3}{x-5}$, *find* $f(\frac{1}{4})$

    a. $\frac{49}{76}$ **b.** $-\frac{49}{76}$ **c.** $-\frac{47}{84}$ **d.** $\frac{47}{84}$

4. *What is the domain of this function:* $f(x) = \sqrt{x^2 - x - 2}$

    a. $(-\infty, -1] \cup [2, \infty)$ **b.** $(\infty, -2] \cup [1, \infty)$ **c.** $(-2, 1)$ **d.** $[-1, 2]$

5. *What is the domain of this function:* $f(x) = \frac{3-x}{x+5}$

    a. $(-\infty, -5) \cup (3, \infty)$ **b.** $x \neq -5, x \neq 3$ **c.** $x \neq -5$ **d.** $(-5, 3)$

6. *What is the range of this function:* $y = x^2 - 5$

    a. $(-\infty, \infty)$ **b.** $[5, \infty)$ **c.** $[-5, \infty)$ **d.** $(-\infty, -5]$