

**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. $(-\infty, -5]$