College Algebra – Practice Test for Unit 1 Instructor: David Katz

Below is a random sample of possible test questions for Unit 1. These questions do NOT include all possible topics for the first exam. An important way to study for math tests is to study the required topics in a random, out–of–the–ordinary, order to simulate a real testing environment.

On separate scratch paper, show the arithmetic, algebra, and/or calculator steps you used to arrive at each answer. Remember: neatness counts!

Name: _____ Class: _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Find the domain of the function.

1) $\frac{x - 6}{\sqrt{x - 6}}$

A) $(-\infty, \infty)$ B) $(-\infty, 6) \cup (6, \infty)$ C) $[6, \infty)$ D) $(6, \infty)$

Solve the problem.

2) Suppose a car rental company charges \$122 for the **FIRST** day and \$72 for each **ADDITIONAL** or **PARTIAL** day. Let S(x) represent the cost of renting a car for x days. Find the value of S(6.5).

A) \$554 B) \$468 C) \$590 D) \$518

Determine if the given function is even, odd, or neither.

3) $f(x) = x^3 + x^2 + 1$

A) Neither B) Odd C) Even

List the intercepts for the equation.

4) $x^2 + y - 25 = 0$

A) (25, 0), (0, –5), (0, 5) B) (–5, 0), (5, 0)
C) (0, 25), (–5, 0), (5, 0) D) (0, –5), (0, 5)

Decide whether the composite functions, f ∘ g and g ∘ f, are equal to x.

5) $f(x) = x^2 + 2$, $g(x) = \sqrt{x} - 2$

A) No, yes B) Yes, yes C) No, no D) Yes, no

Find the domain of the composite function f ∘ g.

6) $f(x) = \frac{2}{x + 5}$; $g(x) = x + 10$

A) $\{x \mid x \text{ is any real number}\}$ B) $\{x \mid x \neq -5\}$
C) $\{x \mid x \neq -15\}$ D) $\{x \mid x \neq -5, x \neq -10\}$