

## Assignment R

This review assignment is due the first day of class. If the assignment seems difficult, then consider refreshing your math 12 skills with either MATH 107 or the short online course Prep for Applied Calculus at <https://sites.google.com/site/mathchaircamosun/home/ALEKS-prep-courses>

**No calculators.** Show all of your work in the space provided.

1. Simplify:  $\frac{1}{x+1} - \frac{1}{x-1}$

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2. Simplify:  $\frac{x^3 + 5x^2 + 6x}{x^2 - x - 12}$

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3. Express as a decimal: \_\_\_\_\_

4. Solve:  $\frac{1}{x} + \frac{1}{2} = \frac{x}{2}$

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5. Solve:  $x^2 + 4x - 1 = 0$  (answer in simplest radical form)

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6. If  $f(x) = \frac{2x+1}{x+1}$  find  $f(a+1)$ .

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7. What is the domain of  $f(x) = \frac{x^2}{x-2}$ ?

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8. Given  $f(x) = -2(x-3)^2 + 4$ , find the vertex and the exact  $x$ -intercepts and graph the function.

