

Mathematics 133 – Calculus With Fundamentals 1
Precalculus Review
September 1, 2017

The following problems are an “unofficial” review quiz on some algebraic topics that we will be using all the time this semester. You have 20 minutes; we will reconvene as a class and discuss the solutions after that time.

1.

a) Express the x that satisfy $|3x - 3| < 2$ as an interval.

b) Write the closed interval $[4, 9]$ in the form “the set of all x satisfying $|x - c| \leq r$ for some c, r .”

2.

a) Simplify to rewrite as x^a for some a : $\frac{x^{-1/3}}{x^{1/2}}$

b) Simplify: $(x^2y^{-3})(x^{-5}y^3)$

3. Factor as much as possible:

a) $3x^2 - 6x - 24 =$

b) $9x^2 - 16y^4 =$

4. Solve for x :

a) $x^2 - 5x + 6 = 0$

b) $8x^2 - 8x - 3 = 0$ (Note: this one *does not factor nicely*)

5. A salesperson's monthly commission is 15% on all sales over \$20000. If her goal is to make a commission of at least \$3000 per month, what should her monthly sales be?