

## Math 116 Practice Exam 2 Answers

1)

a)  $\frac{262144}{953125}$  (geometric series)

b) 12 (compute partial sums)

c)  $\frac{\pi}{\sqrt{2}}$  (MacLaurin series for  $\cos(x)$ )

2) Divergent (partial fractions + improper integral)

3)

a) converges (ratio test)

b) diverges (test for divergence)

c) diverges (integral test)

4)

a)  $\frac{5}{6}$  (highest terms)

b)  $e^{-4}$  (exponential/log plus l'Hopital's rule)

5)

a)  $c = 2$

b)  $R = 8$