

MATH 152
Mrs. Bonny Tighe

QUIZ 6
25 points
9.1,9.2,12.1,12.2

NAME _____

Section _____ Wed. 3/29/06

1. Find the length of the curve: $4x = y^2$, $0 \leq y \leq 2$

2. Find the area of the surface obtained by rotation the curve about the y-axis.
 $x = y^3$, $0 \leq y \leq 2$

3. Express the number $0.\overline{15}$ as a ratio of integers.

3. Determine whether the sequence converges or diverges. If it converges, find the limit.

a) $a_n = \frac{n(n+2)}{3(n-1)^2}$

b) $a_n = \cos(n\pi/2)$

c) $a_n = \frac{3^{n+2}}{5^n}$

d) $a_n = \ln(n^2 + 2) - \ln(n-1)$

5. Determine whether the given sequence is increasing, decreasing or not monotonic. Is the sequence bounded?

a) $a_n = \frac{3}{n+1}$

b) $a_n = 2N + (-1)^n$

6. Determine whether the series is divergent or convergent. If it is convergent, find its sum.

a) $\sum_{n=1}^{\infty} 3^{-n} 7^{n-1}$

b) $\sum_{n=1}^{\infty} \frac{1}{n^2 + n}$

c) $\sum_{n=1}^{\infty} \frac{2n-1}{n+1}$

d) $1 + \frac{1}{\sqrt{3}} + \frac{1}{3} + \frac{1}{3\sqrt{3}} + \frac{1}{9} + \dots$