_____ / 45 total points (both parts)

## Test #1 (Part 1 – No Calculator)

Name: _____

Math 18, Prof. Beydler

Monday, September 17, 2018

Directions: Show all work. No calculator, books, or notes. Your desk and lap must be clear (no phones, no smart watches, etc.). If you have a phone in your lap or on your chair, it is considered cheating, and you will receive a zero on this test. Write your answers in the indicated places, or box your answers. When you're finished with Part 1, please turn it in, take a bathroom break, get your calculator out, and start Part 2. Good luck!

1. Graph the following functions. **Label intercepts and asymptotes.** Find the domain and range.
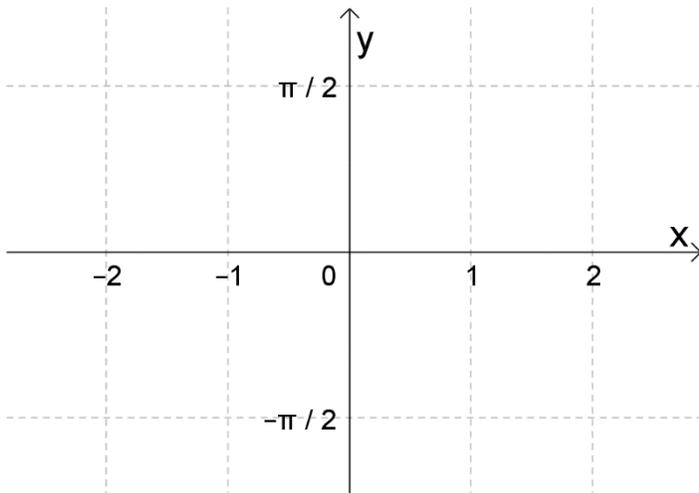
a) (3 points) $y = \ln x$
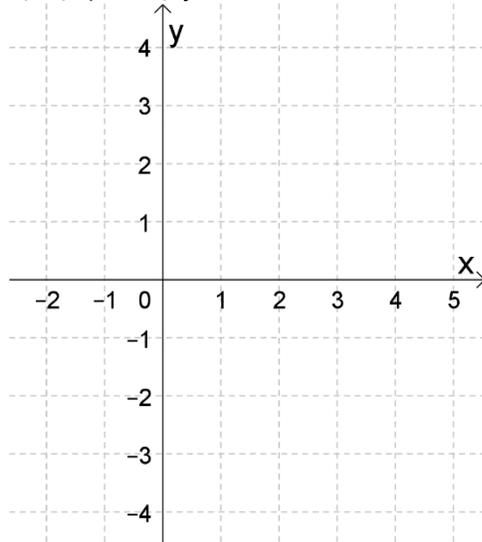
Domain: _____

Range: _____

b) (3 points) $y = \arctan x$

Domain: _____

Range: _____

2. Answer the following questions.

   a) (1 point) What is the term of $3x + 2x^{\frac{7}{2}} + x^2$ with the highest exponent? _____

   b) (1 point) Rewrite $\sqrt[4]{x^3}$ using rational exponents. _____

3. Find the exact value without a calculator.

   a) (1 point) $\sin \pi = $ _____

   b) (1 point) $\cos \frac{3\pi}{4} = $ _____

   c) (1 point) $\sec \frac{11\pi}{6} = $ _____

   d) (1 point) $\tan \left(-\frac{2\pi}{3}\right) = $ _____

4. The position of a particle $s(t)$ (in feet) is shown to the right as a function of t (in minutes). Find the average velocity of the particle over the following time intervals. Be sure to write the units of your answers.

   a) (1 point) $t = 0$ to $t = 3$

   Answer: _____

   b) (1 point) $t = 3$ to $t = 5$

   Answer: _____

   c) (1 point) $t = 0$ to $t = 8$

   Answer: _____