

Name : \_\_\_\_\_ ID. # : \_\_\_\_\_ SER. # : \_\_\_\_\_

1. Write True or False for each of the following: (1.5 pt)

- The multiplicative inverse of  $\frac{0}{3}$  is  $\frac{3}{0}$  .....
- The set of prime numbers is closed under addition .....
- $0 \cdot (a + b) = 0$  by the zero property .....

2. For the set  $\{\frac{-6}{-3}, \sqrt{15}, \frac{3}{\pi}, \sqrt{-9}, -173.515151\dots, -\frac{2}{0}, \frac{0.5}{0.3}, -\sqrt{49}\}$ , list (3 pts)

the natural numbers: .....

the integer numbers: .....

the rational numbers: .....

the irrational numbers: .....

the real numbers: .....

3. If  $2 < x < 5$ , then write without absolute value bars and find :

$$|2 - x| + \frac{|x - 5|}{x - 5} - |x + 3| \quad (3 \text{ pts})$$

4. For the positive real numbers  $x$  and  $y$ , simplify:  $\sqrt{8x^7y^5} + \sqrt{18x^5y^3} - xy\sqrt{2x^5y^3}$  (2.5 pts)