

Math142 Quiz # 3  
Section \_\_\_\_\_

Name: \_\_\_\_\_  
Seat # \_\_\_\_\_

Reason for Absence: \_\_\_\_\_

---

1. Find the domain of a function

$$f(x) = \frac{\sqrt{9x - 18}}{x - 4}$$

2. Express the following interval in each form below:

Interval Notation	Inequality Notation
$(1, 4]$	
	$-2 \leq x < 2$

3. Evaluate the following function:

$$f(x) = \begin{cases} |x + 5|, & x \leq 4 \\ x^2 - 30, & x > 5 \end{cases}$$

a.  $f(-2)$

b.  $f(5)$

4. Company XYZ makes stereos for \$140 each, pays rent of \$585 per month, \$115 per month for utilities and \$2300 per month in salaries. The store across the street pays \$500 per month rent. If the stereos sell for \$350 each, find:

a) cost equation

b) profit equation

5. Determine the end behavior of each of the following:

	as $x \rightarrow \infty$	as $x \rightarrow -\infty$
a. $f(x) = 3x^4 + 2x + 6$		
b. $g(x) = -2x^3 + 4x^2 + 9$		