

**Math 160 - Cumulative Review 2 - Chapter 0**  
**Solve problems on another paper**

Name \_\_\_\_\_

1) If  $f(x) = \frac{4x}{8(x+2)(-x-1)}$ , which of the following are true?

- (I) -1 is the domain
  - (II)  $f\left(\frac{1}{2}\right) = -\frac{1}{15}$
  - (III)  $f(0) = -\frac{1}{16}$
  - (IV)  $f$  is not defined at  $x = -2$  and  $x = -1$
- A) (II) and (IV)                      B) (II) and (III)  
C) (I) and (II)                        D) (I) and (IV)

2) Describe the domain of the function  $g(x) = \frac{\sqrt{x+5}}{x+3}$ .

3) Find the  $x$ - and  $y$ -intercepts of the following function:  $f(x) = x^2 - 4$

4) Let  $f(x) = 2x^2 + 5x$ . Then  $\frac{f(x+h) - f(x)}{h}$  equals

- A)  $4x + 5 + 4h^2 + 5h$
- B)  $4x + 5h + 4h^2$
- C)  $4x + 5 + 4h$
- D)  $4x + 5xh + h^2 + 5h$
- E) none of the above

**Let  $f(x) = x^6 + 1$ ,  $g(x) = x^3 + 1$ . Calculate the following functions and express them in simplest terms:**

5)  $f(g(x))$

**Solve the problem.**

6) A shoe company will make a new type of shoe. The fixed cost for the production will be \$24,000. The variable cost will be \$30 per pair of shoes. The shoes will sell for \$109 for each pair. How many pairs of shoes will have to be sold for the company to break even on this new line of shoes? Show graph. Label.

**Find the equilibrium point for the supply and demand curves. Round answers to two decimal places. Show graph and label.**

7)  $D(p) = 840 - 20p$ ,  $S(p) = 270 + 10p$

**On problems 11 - 19, convert to an expression using radical notation and no negative exponents.**

8)  $d^{-11/8}$

## Answer Key

Testname: CUM2-S08

1) A

2)  $x = -5$ ,  $x \neq -3$

3)  $x$ -intercept = 2, -2 ;  $y$ -intercept = -4

4) E

5)  $(x^3 + 1)^6 + 1$

6) 304 pairs

7) (19.00, 460.00)

8)  $\frac{1}{\sqrt[8]{d^{11}}}$