

QUIZ 4 - MTH 166 - 10 points

Name: _____ Date: _____

Instructions: Solve the following. Remember to show all work in order to receive full credit.

1. Divide by long division: $(x^3 + 4x^2 - 12) \div (x^2 - 3)$.
2. Divide by synthetic division: $(5x^3 + 6x + 8) \div (x + 2)$.
3. Find all zeros of the function and write the polynomial as a product of linear factors.
 - a) $h(x) = x^3 - 3x^2 + 4x - 2$
 - b) $f(x) = x^4 - 10x^2 + 24$
4. Find the domain of
 - a) $f(x) = \frac{4}{x-2}$
 - b) $g(x) = \frac{x^3}{x^2-9}$
5. Name any vertical or horizontal asymptotes
 - a) $f(x) = \frac{3-x}{2-x}$
 - b) $g(t) = \frac{3t^2}{t^2-9}$
6. Graph the rational function $f(x) = \frac{1-3x}{1-x}$. Mark all vertical and horizontal asymptotes.

- REMEMBER after QUIZ # 4 there will be an exam in the TESTING CENTER
- EXAM # 2 will include concepts from Quizzes # 3 and # 4