

Chapter 2 Practice Test

Name: _____ Date: _____ Per: _____ Assg# _____

SHOW ALL THE WORK ON A SEPARATE PIECE OF PAPER. NO WORK = NO CREDIT

1) *Simplify:* $(-5 + 25i) - (2 - 7i) + (10 - 3i)$

2) *Simplify:* $(3 - 8i)^2$

3) *Simplify:* $\frac{3+8i}{2-7i}$

4) *Solve:* $7 = 8x - 3x^2$

5) Find the vertex, zeros, intercepts for a total of 5 points and graph: $f(x) = 2x^2 - 4x - 6$.

6) Without graphing, determine if $f(x) = -5x^2 - 5x + 8$ has a minimum value or a maximum value. The find the coordinates of this point.

7) Application:

A rectangular field is to be fenced off and divided in three by two parallel fences along either the width or the length of the field. 600 ft of fencing will be used for this purpose. Find the maximum area of the fenced field.

Show all the work using quadratic equations. If you do the work using linear equations or by trial and error, or if the work is not organized and labeled, you will receive no credit.

8) Find the zeros, critical points, intercepts, and any additional points to **graph** $f(x) = x^3 + 7x^2 - 4x - 28$. Plot and label the points.

9) Find the zeros, critical points, intercepts, and any additional points to **graph** $f(x) = x^4 - 4x^3 + 4x^2$. Plot and label the points.

10) Solve the following polynomial function: $f(x) = x^4 - 3x^3 - 20x^2 - 24x - 8$. Show all the work in order, as done in class.

11) Find the x- and y- intercepts, VA, HA, SA, (if any), and use table of values to **graph**:

$$f(x) = \frac{x^2 + 1}{x - 1}$$

12) Find the x- and y- intercepts, VA, HA, SA, (if any), and use table of values to **graph**:

$$f(x) = \frac{3x^2}{x^2 - 4}$$

13) Solve the following polynomial inequality: $x^3 + 2x^2 \geq x + 2$

14) Solve the following rational inequality: $\frac{x-2}{x+2} \leq 2$

15) Find a 3rd degree polynomial function with zeros 3 and 2i, given that $f(1) = -30$.

16) Do not forget to review the word problems on section 2.8. (Examples 1-5 and problems 22,25,26,28,30,32)

1)	Zeros: _____ y-Int: _____ 8) Critical Points: _____
2)	Zeros: _____ y-Int: _____ 9) Critical Points: _____
3)	10)
4)	x-Int: _____ y-Int: _____ 11) VA: _____ HA: _____ SA: _____
5) Vertex: _____ Zeros: _____ x-Int: _____ y-int: _____	x-Int: _____ y-Int: _____ 12) VA: _____ HA: _____ SA: _____
6) Circle one: Maximum/Minimum Coordinates: _____	13)
7) Length: _____ Width: _____ Maximum Area: _____	14)
	15)

