

Mth 112 Monday 11-19-12

Class Notes

Worksheet

3.

$$(x^3 + 12x^2 + 27x - 14) \div (x + 4)$$

$$\begin{array}{r|rrrr} -4 & 1 & 12 & 27 & -14 \\ & & -4 & -32 & 20 \end{array}$$

NOT
A
FACTOR

$$1 \quad 8 \quad -5$$

6

Remainder

$$x^2 + 8x - 5 + \frac{6}{x+4} *$$

$\Delta \Rightarrow$ charges

①⑤ $f(x) = \cancel{1x^3} + 2x^2 - 17x + 18$

total zeros $\Rightarrow 3$

$f(x) = + \quad + \quad - \quad +$ two changes
 (2 or 0 + IR)

$f(-x) = - \quad + \quad + \quad +$ one change
 (1 $\ominus$ TP)

<u>total</u>	<u>+IR</u>	<u>-IR</u>	<u>imag.</u>
3	2	1	0
3	0	1	2

2 possible imag.

$p \Rightarrow \pm 1, \pm 2, \pm 3, \pm 6, \pm 9, \pm 18$ (2 or 0 + IR)

$q \Rightarrow \pm 1$

1 Neg IR

possible rat. zeros
 $\pm 1, \pm 2, \pm 3, \pm 6, \pm 9, \pm 18$