$(x-2)(x+3)^2$ Found roots → x-intercepts

$x-2=0$ $x+3=0$

$+2\ +2$ $-3\ -3$

$x=2$ $x=-3$ Multiplicity of 2

Polynomial

Roots:

$x=3$ $x=-1$ $x=4$

$-3\ -3$ $+1\ +1$ $-4\ -4$

$x-3=0$ $x+1=0$ $x-4=0$

$(x-3)(x+1)(x-4) =$ _____

$$\frac{-2x^3+15x^2-22x-15}{x-3} = -2x^2+9x+5$$

$$\frac{-2x^3}{x} = -2x^2 \qquad \frac{9x^2}{x} = 9x \qquad \frac{5x}{x} = 5$$

$$\begin{array}{r} -2x^2+9x+5 \\ x-3\ \overline{)\ -2x^3+15x^2-22x-15} \\ +2x^3\mp 6x^2 \\ \hline 9x^2-22x \\ -9x^2+27x \\ \hline 5x-15 \\ -5x+15 \\ \hline 0 \end{array}$$

$-2x^3 + 15x^2 - 22x - 15$ = $(x-3)$

$x - 3 = 0$

$+3 \quad +3$

$x = 3$

root!

3 | -2 15 -22 -15

-6 27 15

-2 9 5 0

x^2 x

x-int

$y = 0$

remainder

constant

$-2x^2 + 9x + 5$

$f(x) = -2x^3 + 15x^2 - 22x - 15$

$f(1) = -2(1)^3 + 15(1)^2 - 22(1) - 15$

$-2 + 15 - 22 - 15$

$13 - 22 - 15$

$-9 - 15 = -24$

$f(1) = -24$

1 | -2 15 -22 -15

-2 13 -9

-2 13 -9 -24

$x^4 - 5x^3 + 5x^2 + 7x - 12 \div x - 4$

$$x^4 - 5x^3 + 5x^2 + 7x - 12 \div x - 4$$

*

$$x^3 - x^2 + x + 11 + \frac{32}{x-4}$$

$x-4 \;|\; x^4 - 5x^3 + 5x^2 + 7x - 12$

$x^4 + 4x^3$

$-x^3 + 5x^2$

$+x^3 - 4x$

$x^2 + 7x$

$-x^2 + 4x$

$11x - 12$

$-11x + 44$

32

4	1	-5	5	7	-12
	↓	4	-4	4	44
	1	-1	1	11	-32

HW ch 6.3 evens
Supplemental WS
Online HW 29
Quiz 29 & May 20th

No HW/Q 30!

HW/Q 28 May 12th

Remember to turn in Test 5!!