#1 $x^3-3x^2-18x+40=0$

$x=-4$ $x=2$ $x=5$

FINDING ZEROS ON TI-83/84

1. PUT POLYNOMIAL ON Y1
   PUT ZERO ON Y2
2. [2ND] [TRACE]
   CHOOSE INTERSECT
   [ENTER] ON 1ST CURVE
   [ENTER] ON 2ND CURVE
   → INPUT AN X-VALUE CLOSE TO ANSWER AND PRESS [ENTER]
3. IF DECIMALS
   [2ND] [MODE]
   [MATH]
   [ENTER]
   [ENTER]

#2 $4x^3-17x^2+16x-3=0$

$x=3$ $x=1$ $x=\frac{1}{4}$

#3 $x^3-4x^2+9x-10=0$

$x=2$

	x^3			
2	1	-4	9	-10
		2	-4	10
	1	-2	5	0
	x^2	x	NO x	$=$

$x^2-2x+5=0$

$a=1 \quad b=-2 \quad c=5$

$$x=\frac{-b\pm\sqrt{b^2-4ac}}{2a}=\frac{-(-2)\pm\sqrt{(-2)^2-4(1)(5)}}{2(1)}=\frac{2\pm\sqrt{4-20}}{2}$$

$$\frac{2\pm\sqrt{-16}}{2}\quad \frac{2\pm 4i}{2}\quad \frac{2}{2}\pm\frac{4}{2}i\quad 1\pm 2i$$

#4 $x^4+5x^3-5x^2-15x+14=0$

$x=-2$ $x=1$

	x^4				
1	1	5	-5	-15	14
		1	6	1	-14
-2	1	6	1	-14	0
		-2	-8	14	
	1	4	-7	0	
	x^2	x	NO x		

$x^2+4x-7=0$

$a=1 \quad b=4 \quad c=-7$

$$x=\frac{-b\pm\sqrt{b^2-4ac}}{2a}=\frac{-4\pm\sqrt{(4)^2-4(1)(-7)}}{2(1)}=\frac{-4\pm\sqrt{16+28}}{2}$$

$$\frac{-4\pm\sqrt{44}}{2}\quad \frac{-4\pm\sqrt{2\cdot 2\cdot 11}}{2}\quad \frac{-4\pm 2\sqrt{11}}{2}\quad -2\pm\sqrt{11}$$

$-2\pm\sqrt{11}$