Lower Bounds on Real Zeros.

Book way: __Upper__

$\frac{1460}{2} = 730$
-360
370

10	1	-10	71	-360	150	2500
		10	0	710	3500	HUGE
	1	0	71	350	BIG	Enormous

$\frac{3700}{2}$
1850

All positive, Done
10 is U.B.

$\frac{1360}{2} = 680$

$\boxed{c \le 10}$

-5	1	-10	71	-360	150	2500
		-5	65	-680	+BIG	-Ginormous
	1	-15	136	-1040	BIGGER	-BIG

So $x = -5$ is a lower bound on real zeros.

For Oblique asymptote, it's only necessary to divide far enough to get the first couple terms.

$$x^4 - 5x^3 - 7x^2 \,\big)\overline{\,x^5 - 10x^4 + 71x^3\,}$$

is plenty far enough.

Just get $2x+6$ & done, here.