QUIZ 7 - MATH 111   Friday, October 25

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Read each problem **very carefully** before starting to solve it and do only what is asked.
Each problem is worth around 5 points. It is necessary to show **all** your work. Correct
answers without explanations are worth 0 points. GOOD LUCK!!

1. [6 points] Consider the rational function

$$f(x) = \frac{(x-10)^2(x+5)}{(x-30)(x+10)^2}.$$

   (a) Find its domain.

   (b) Find its vertical asymptotes.

   (c) Find its horizontal asymptote.

   (d) Find its y-intercept.

   (e) Find its x-intercepts.

   (f) Create its sign table.

2. [6 points] The following sign table summarizes information collected about a rational function $y = f(x)$. If you know that $f(0) = -\frac{9}{16}$, find a possible formula for $y = f(x)$.

x-intercepts

vertical asymptotes

	-5		-4		-1		3	
$f(x)$	$-$		$+$		$+$		$-$		$+$