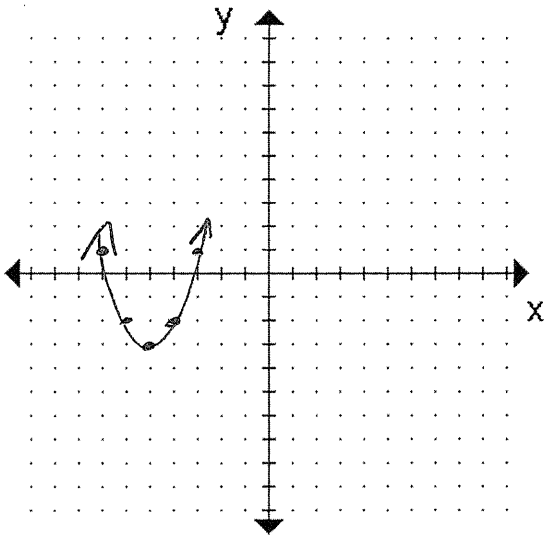
Pre-Calculus Quiz 3.1 to 3.3 Review **Name** _____

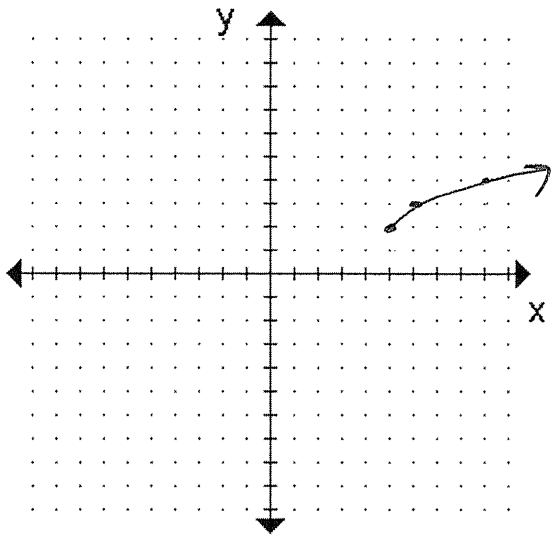
NO CALCULATOR!

Sketch the following graphs. Your graph must show all criteria needed for a good graph.

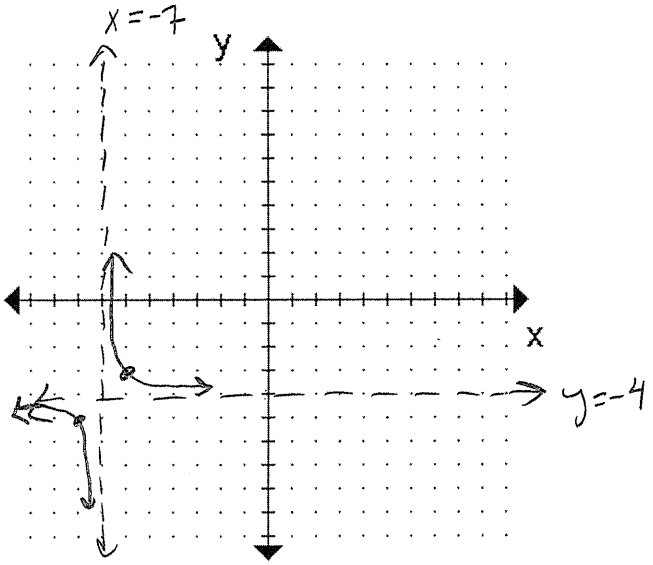
1. $y=(x+5)^2-3$ LS ↓3 V (-5,-3)



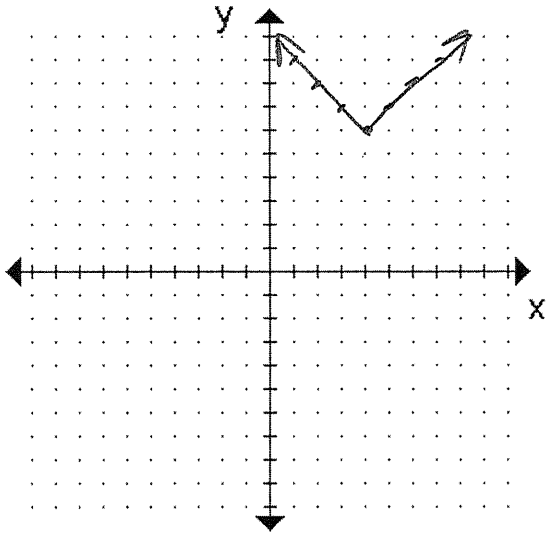
2. $y=\sqrt{x-5}+2$ RS ↑2 Start (5,2)



3. $y=\dfrac{1}{x+7}-4$ ↓4 L7



4. $y=|x-4|+6$ R4 ↑6 V (4,6)



5. a. Using the parent function $y = \frac{1}{x}$, write the equation for its image under the translation

$T(x,y) \rightarrow (x-4, y+3)$

L4 ↑3

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

5 3.b. What are the asymptotes for this image.

$x = -4$

$y = 3$

6 4. a. What is the parent function of

$f(x) = \frac{1}{(x-7)} + 9$ $\quad y = \frac{1}{x}$

b. State a rule for the translation T from the parent function to f(x)

$T(x,y) \rightarrow (x+7, y+9)$

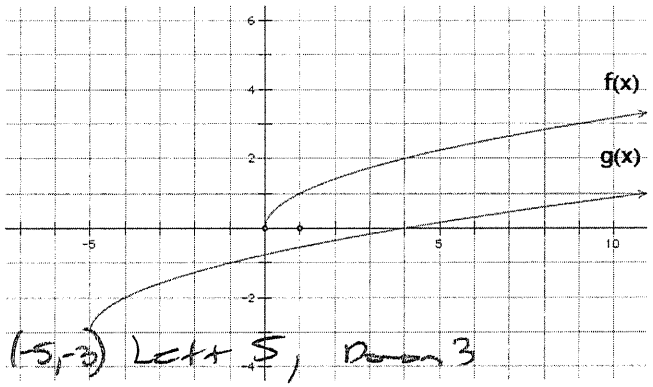
7 5. In an equation for a function or relation, if x is replaced by x - ~~16~~ 6, how is the graph of the image related to the graph of the preimage?

Shifted right 6

8 6. Give an equation for the transformation that maps the graph of f onto the graph of g.

$y = \sqrt{x}$

$y = \sqrt{x+5} - 3$



9 7. Ms. Smith adjusted the grades of her 155 students by adding 5 points to each score. The students' original scores are described in the Initial Score of the table below. Complete the Adjusted Score column.

Statistical Measure	Initial Score	Adjusted Score
mean	79	84
standard deviation	8	8
median	81	86
range	43	43
variance	77	77