

2. [14 points] The following table gives values of three functions at three different x values.

x	1	4	9
$f(x)$	5	-4	-13
$g(x)$	48	6	$3/16$
$h(x)$	2	4	6

- a. [4 points] Peter thinks $f(x)$ is **linear**. Find Peter's formula for $f(x)$ in exact form, if possible. If $f(x)$ can't be linear based on the information given, write "not possible" in the blank and explain why it can't be linear.

$$f(x) = \underline{\hspace{10em}}.$$

- b. [5 points] Sarah thinks $g(x)$ is **exponential**. Find Sarah's formula for $g(x)$ in exact form, if possible. If $g(x)$ can't be exponential based on the information given, write "not possible" in the blank and explain why it can't be exponential.

$$g(x) = \underline{\hspace{10em}}.$$

- c. [5 points] Sally thinks $h(x)$ is a **power function**. Find Sally's formula for $h(x)$ in exact form, if possible. If $h(x)$ can't be a power function based on the information given, write "not possible" in the blank and explain why it can't be a power function.

$$h(x) = \underline{\hspace{10em}}.$$