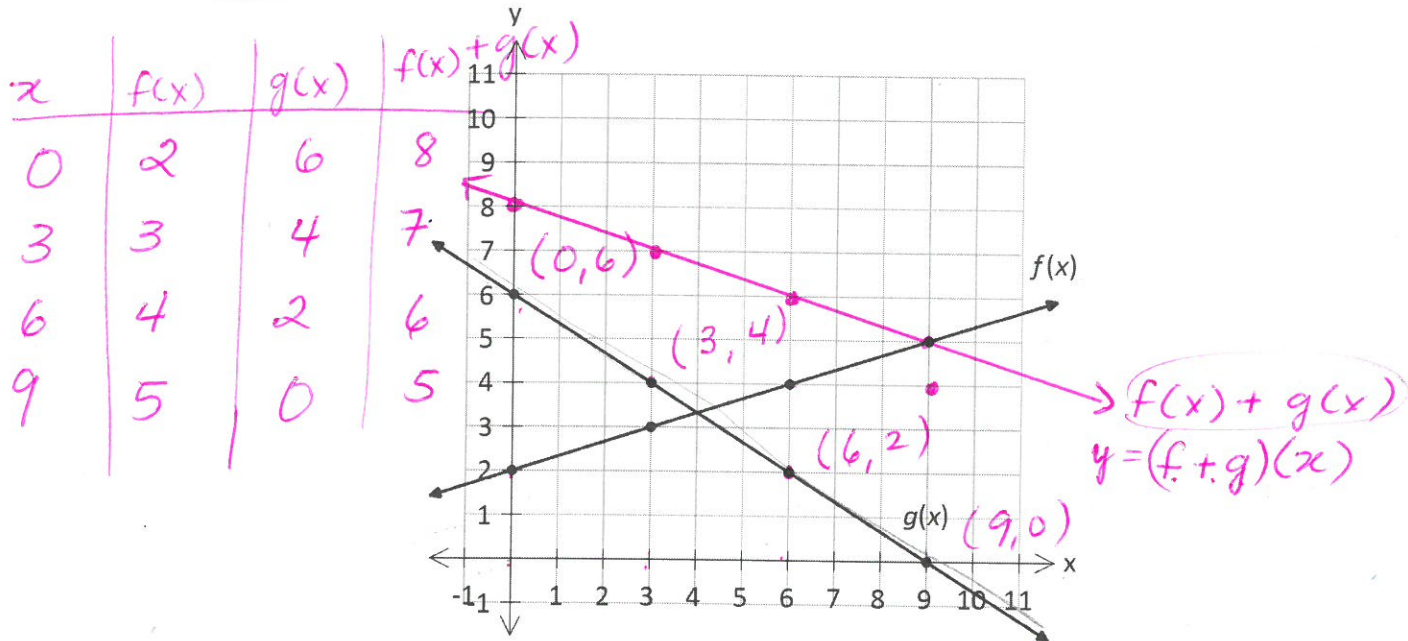
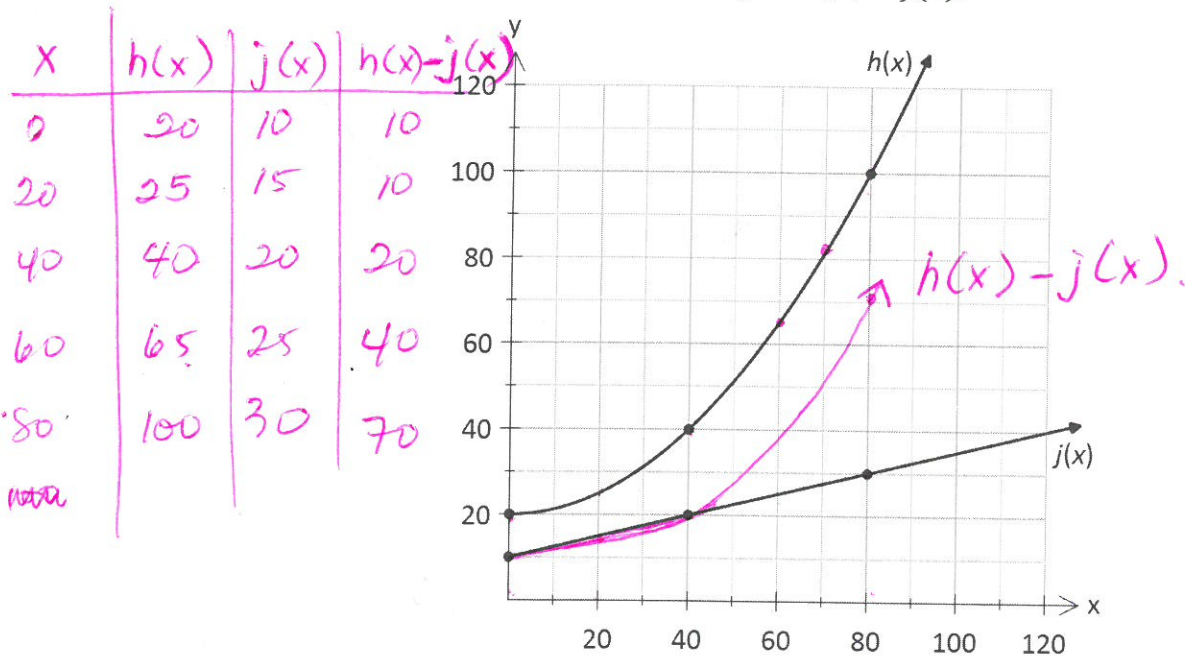


Lesson 1: Combining Functions Graphically

Example 1: The graphs of $f(x)$ and $g(x)$ are shown. On the same grid, sketch the graph of the sum of these two functions: $y = f(x) + g(x)$.



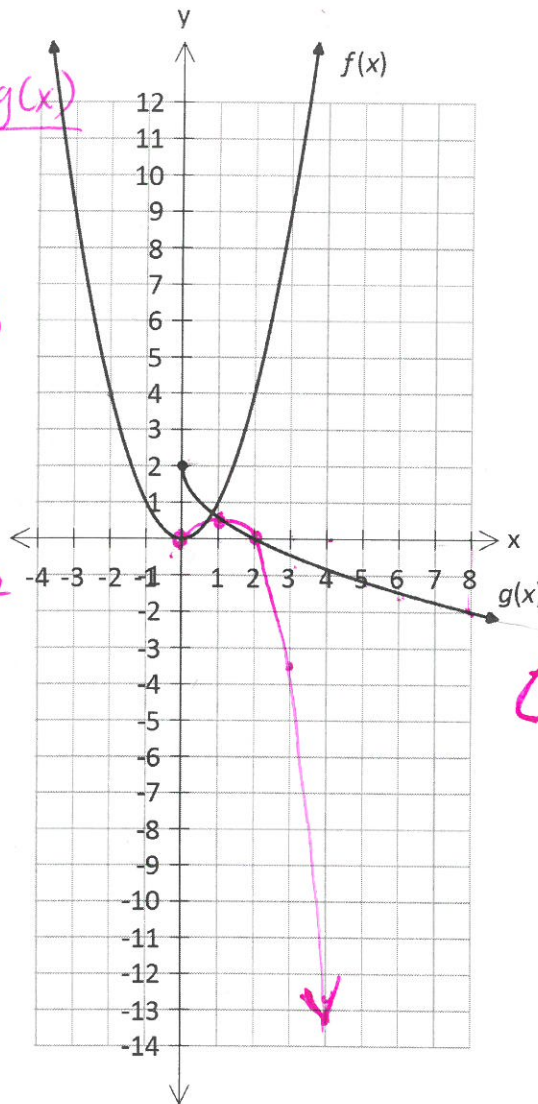
Example 2: The graphs of $h(x)$ and $j(x)$ are shown. On the same grid, sketch the graph of the difference of these two functions: $y = h(x) - j(x)$.



Example 3: The graphs of $f(x)$ and $g(x)$ are shown. On the same grid, sketch the graph of the product of these two functions: $y = f(x) \cdot g(x)$.

What are the domains of $f(x)$, $g(x)$, and $y = f(x) \cdot g(x)$?

x	$f(x)$	$g(x)$	$f(x) \cdot g(x)$
0	0	2	0
1	1	0.5	0.5
2	4	0	0
3	9	-0.4	-3.6
4	16	-0.8	-12.8
5	25	-1.2	-30
6	36	-1.5	-54
7	49	-1.8	-88.2
8	64	-2	-128



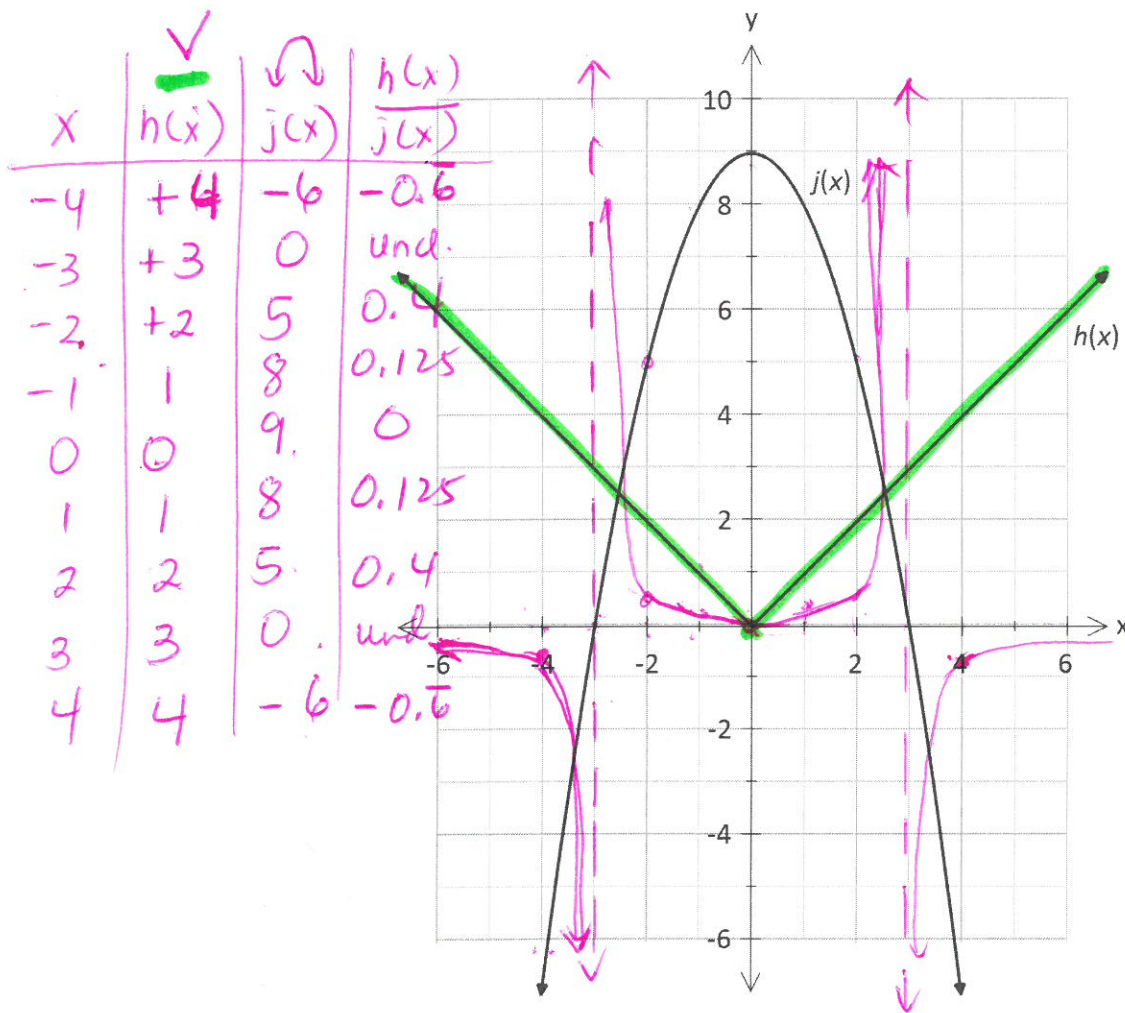
$f(x)$ domain
 $(-\infty, \infty)$

$g(x)$ domain
 $[0, \infty)$

Domain of
 $f(x) \cdot g(x)$
 $[0, \infty)$

Example 4: The graphs of $h(x)$ and $j(x)$ are shown. On the same grid, sketch the graph of the quotient of these two functions: $y = \frac{h(x)}{j(x)}$.

What are the domains of $h(x)$, $j(x)$, and $y = \frac{h(x)}{j(x)}$?



Assignment Time! Work on p.268- 1 – 3