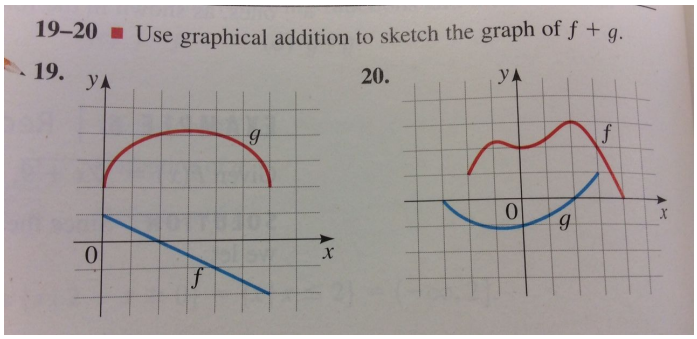
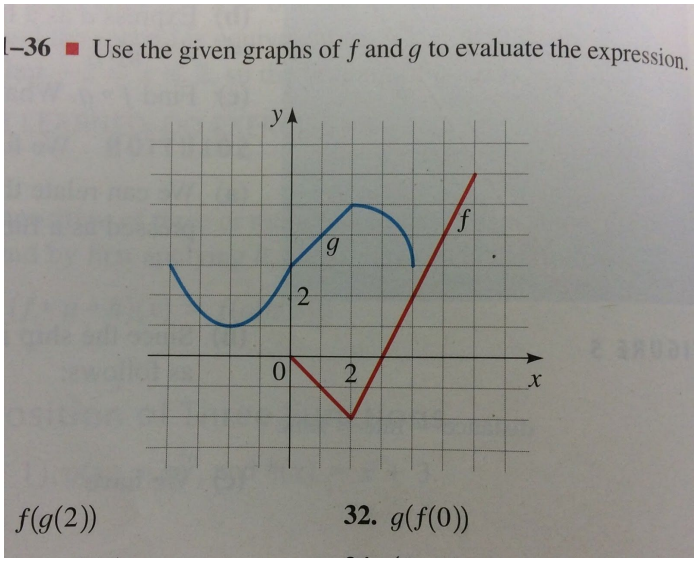
Math 1050 A2.6 Combining Functions	Name
1-2.  	3. By definition, $f \circ g(x)=$ _____. So if g(2)=5, and f(5) = 12, then $f \circ g(2)=$ _____.
4. Find the following and their Domains: $f(x) = x^2 + 2x \;\; g(x) = x^2 - 1$ $f+g$ Domain: $f-g$ Domain: $f \cdot g$ Domain $\frac{f}{g}$ Domain:	5. Find the following and their Domains: $f(x) = \frac{2}{x} \;\; g(x) = \frac{4}{x+4}$ $f+g$ Domain: $f-g$ Domain: $f \cdot g$ Domain $\frac{f}{g}$ Domain:
6. Find the value of the composite Functions below.  	Use $f(x) = 3x - 5$ and $g(x) = 2 - x^2$ to find 7. *a)* $(f \circ g)(-1)$ *b)* $(g(f(-2))$ 8. *a)* $(f \circ f)(-1)$ *b)* $(g \circ f)(x)$

9. Find the functions $f \circ g,\ g \circ f,\ f \circ f,\ and\ g \circ g$ and their domains.
$f(x) = 6x - 5, \quad g(x) = \frac{x}{2}$

$f \circ g$
Domain:

$g \circ f$
Domain:

$f \circ f$
Domain:

$g \circ g$
Domain:

10. Find the functions
$f \circ g,\ g \circ f,\ f \circ f,\ and\ g \circ g$ and their domains.
$f(x) = x^3 + 2, \quad g(x) = \sqrt[3]{x}$

$f \circ g$
Domain

$g \circ f$
Domain:

$f \circ f$
Domain:

$g \circ g$
Domain:

11. Find the functions
$f \circ g,\ g \circ f,\ f \circ f,\ and\ g \circ g$ and their domains.
$f(x) = \frac{1}{\sqrt{x}}, \quad g(x) = x^2$

$f \circ g$
Domain:

$g \circ f$
Domain:

$f \circ f$
Domain:

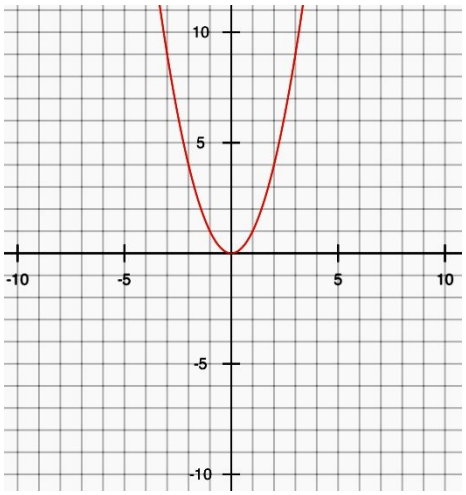
$g \circ g$
Domain:

12 Find the domain of
$f(x) = \sqrt{2x - 7} + \frac{1}{x}$

13. Find the domain of
$f(x) = \sqrt{x^2 - 25}$

14. Find the average rate of change from x =-2 and x = 3 of both functions

$f(x) = x^2 - 4x$ and g(x) is graph

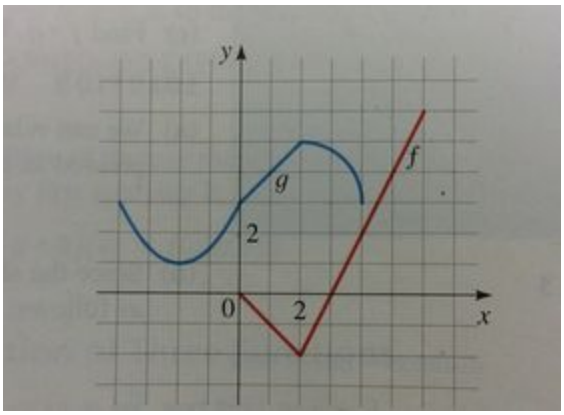


Which has a larger rate of change?

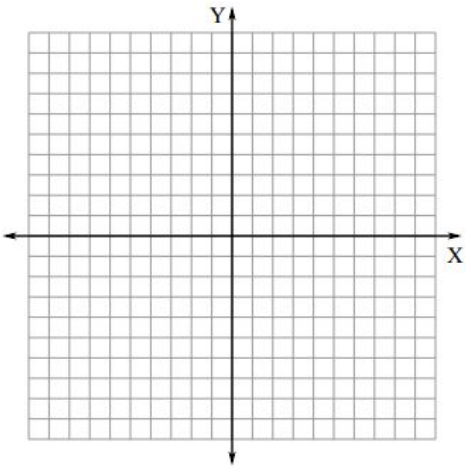
15. Graph the following

a) $3 - f(x)$

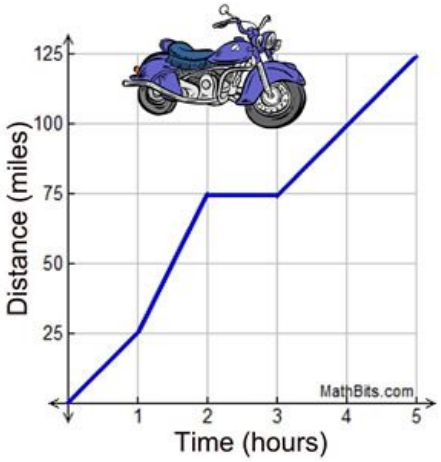
b) $g(2x)$



16. Sketch. MAKE SURE YOU LABEL YOUR GRAPH. $f(x) = \sqrt{-x} + 4$



17. Find the equations of the piecewise function below:



_____when_____

_____when_____

_____when _____

_____when _____