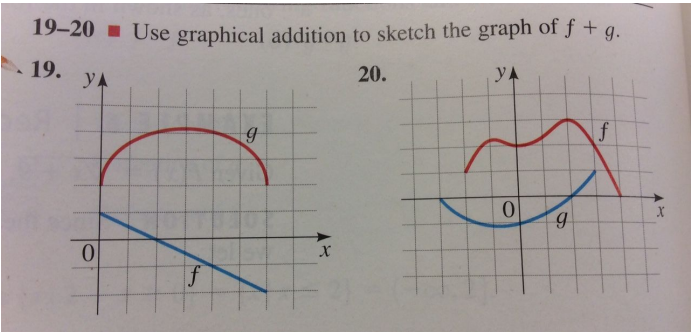
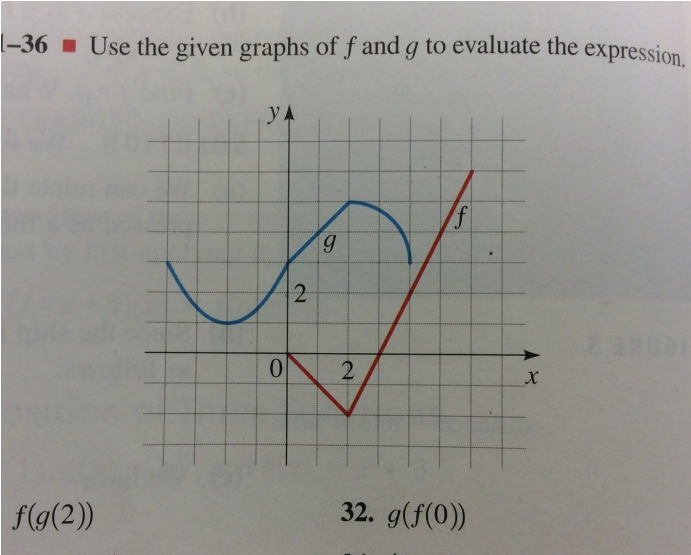


Math 1050 A2.6 Combining Functions	Name
<p>1-2.</p>  <p>19-20 ■ Use graphical addition to sketch the graph of <math>f + g</math>.</p> <p>19. <math>f</math> and <math>g</math> are shown on a coordinate plane. <math>f</math> is a line, <math>g</math> is a curve.</p> <p>20. <math>f</math> and <math>g</math> are shown on a coordinate plane. <math>f</math> is a curve, <math>g</math> is a curve.</p>	<p>3. By definition, <math>f \circ g(x) = \underline{\hspace{2cm}}</math>. So if <math>g(2)=5</math>, and <math>f(5) = 12</math>, then <math>f \circ g(2) = \underline{\hspace{2cm}}</math>.</p>
<p>4. Find the following and their Domains:</p> <p><math>f(x) = x^2 + 2x</math> <math>g(x) = x^2 - 1</math></p> <p><math>f + g</math> Domain:</p> <p><math>f - g</math> Domain:</p> <p><math>f \cdot g</math> Domain</p> <p><math>\frac{f}{g}</math> Domain:</p>	<p>5. Find the following and their Domains:</p> <p><math>f(x) = \frac{2}{x}</math> <math>g(x) = \frac{4}{x+4}</math></p> <p><math>f + g</math> Domain:</p> <p><math>f - g</math> Domain:</p> <p><math>f \cdot g</math> Domain</p> <p><math>\frac{f}{g}</math> Domain:</p>
<p>6. Find the value of the composite Functions below.</p>  <p>36 ■ Use the given graphs of <math>f</math> and <math>g</math> to evaluate the expression.</p> <p>32. <math>g(f(0))</math></p>	<p>Use <math>f(x) = 3x - 5</math> and <math>g(x) = 2 - x^2</math> to find</p> <p>7. a) <math>(f \circ g)(-1)</math></p> <p>b) <math>(g(f(-2)))</math></p> <p>8. a) <math>(f \circ f)(-1)</math></p> <p>b) <math>(g \circ f)(x)</math></p>

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

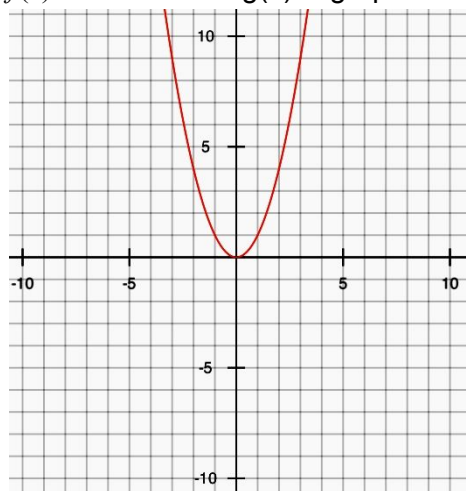
$$f(x) = \sqrt{2x-7} + \frac{1}{x}$$

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

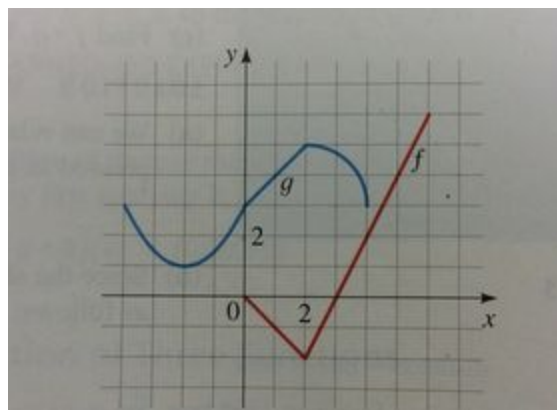


Which has a larger rate of change?

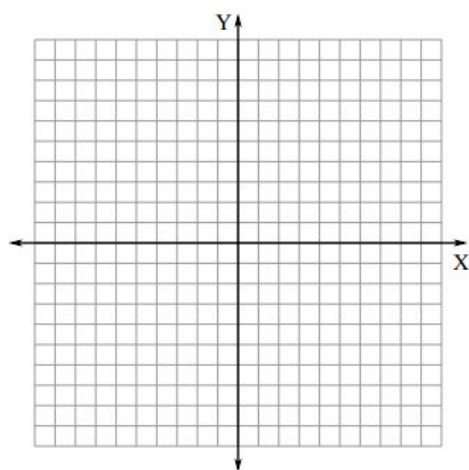
15. Graph the following

a)  $3 - f(x)$

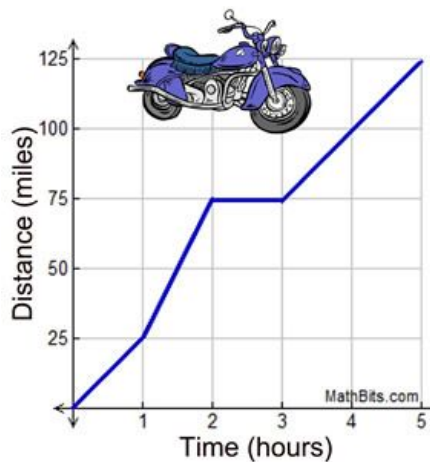
b)  $g(2x)$



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 \_\_\_\_\_