1. Answer the questions about the functions graphed below.

   (a) $g\big(f(0)\big) =$

   (b) $\displaystyle\lim_{x\to 0} f(x) =$

   (c) $\displaystyle\lim_{x\to -2} f(x) =$

   (d) $\displaystyle\lim_{x\to 3} \big(f(x) - 2g(x)\big) =$

   (e) $\displaystyle\lim_{x\to -2} \sqrt{f(x) + g(x)} =$

$y = f(x)$

$y = g(x)$
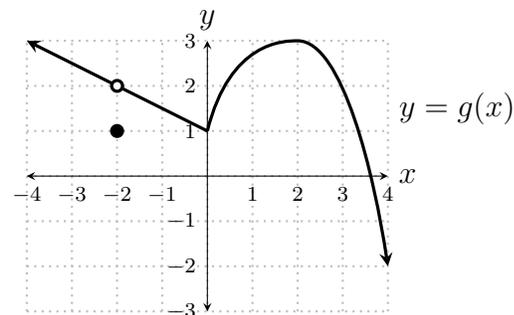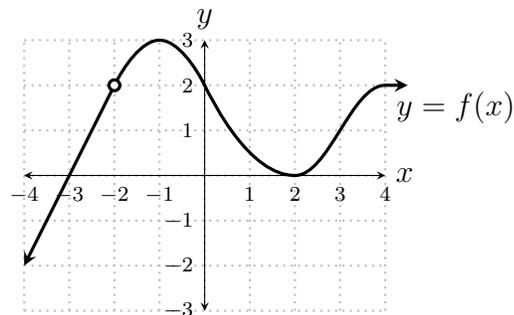
2. $\displaystyle\lim_{x\to 3} \frac{2^x}{x^2 - 5} =$

3. $\displaystyle\lim_{x\to 4} \left(\frac{5}{2x} - \frac{1}{2}\right)^{1/3} =$

4. Draw the graph of **one** function f, with domain $[-4, 1) \cup (1, 4]$, meeting the following conditions.

   (a) $\displaystyle\lim_{x\to 1^-} f(x) = -2$

   (b) $\displaystyle\lim_{x\to 1} f(x)$ DNE

   (c) $\displaystyle\lim_{x\to -2} f(x) = 0$

   (d) $f(-3) = f(3)$

Name: _____
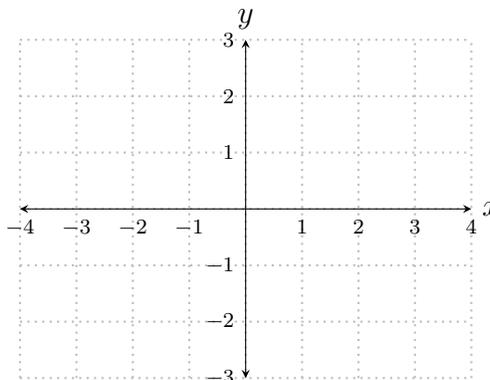
1. Answer the questions about the functions graphed below.

   (a) $f\big(g(3)\big) =$

   (b) $\lim\limits_{x \to 3} f(x) =$

   (c) $\lim\limits_{x \to -2} 2f(x) =$

   (d) $\lim\limits_{x \to 3} \big(f(x) + g(x)\big) =$

   (e) $\lim\limits_{x \to -2} \left(\dfrac{1}{f(x)} + \dfrac{1}{g(x)} \right) =$

   $y = f(x)$

   $y = g(x)$
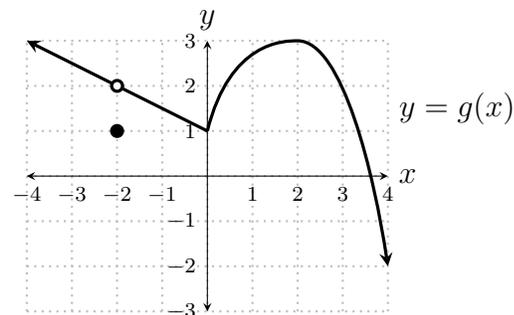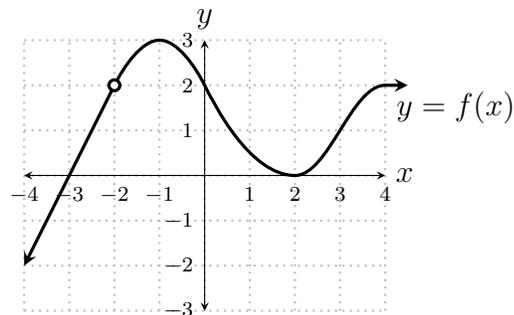
2. $\lim\limits_{x \to 3} \dfrac{3^x + 3}{x^2 + 1} =$

3. $\lim\limits_{x \to 8} \left(\dfrac{14}{x} + \dfrac{1}{2} \right)^{1/2} =$

4. Draw the graph of **one** function f, with domain $[-4, 1) \cup (1, 4]$, meeting the following conditions.

   (a) $\lim\limits_{x \to 1^+} f(x) = 2$

   (b) $\lim\limits_{x \to 1} f(x)$ DNE

   (c) $\lim\limits_{x \to 0} f(x) = 1$

   (d) $f(-2) = f(2)$
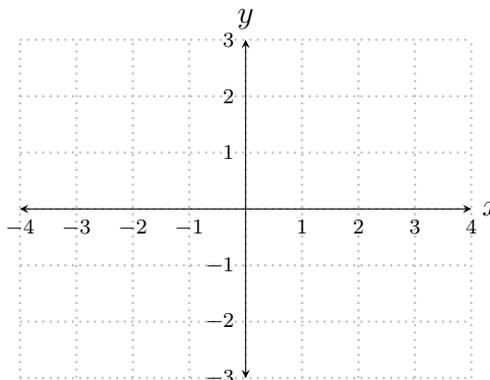
1. Answer the questions about the functions graphed below.

(a) $g\big(f(-1)\big) =$

(b) $\displaystyle\lim_{x \to 2} g(x) =$

(c) $\displaystyle\lim_{x \to -2} 3g(x) =$

(d) $\displaystyle\lim_{x \to 3} \big(f(x) - g(x)\big) =$

(e) $\displaystyle\lim_{x \to -2} \left(\frac{5}{f(x)} + \frac{3}{g(x)} \right) =$

$y = f(x)$

$y = g(x)$
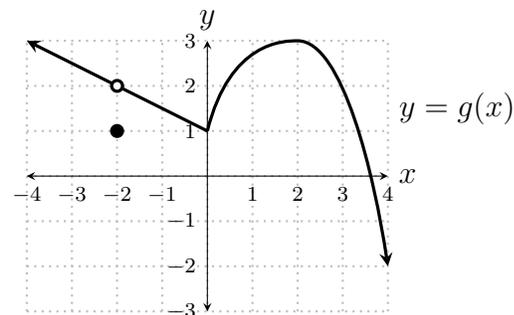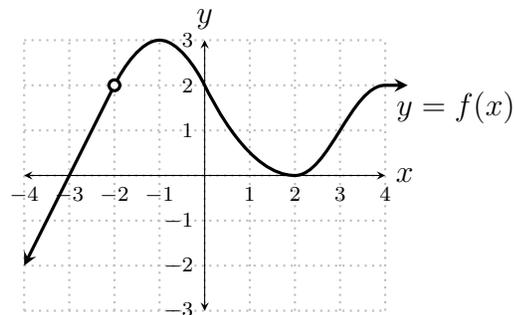
2. $\displaystyle\lim_{x \to 4} \frac{2^x - 1}{\sqrt{x} + 1} =$

3. $\displaystyle\lim_{x \to 4} \left(\frac{5}{2x} - \frac{1}{2} \right)^{2/3} =$

4. Draw the graph of **one** function f, with domain $[-4, 0) \cup (0, 4]$, meeting the following conditions.

(a) $\displaystyle\lim_{x \to 0} f(x)$ DNE

(b) $\displaystyle\lim_{x \to 0^+} f(x) = 2$

(c) $\displaystyle\lim_{x \to -1} f(x) = 3$

(d) $f(-3) = -f(3)$

Name: _____
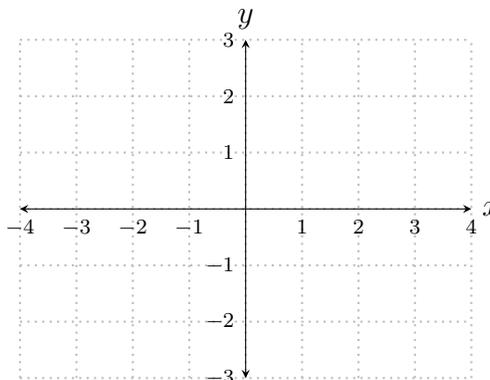
1. Answer the questions about the functions graphed below.

   (a) $g\big(f(2)\big) =$

   (b) $\lim\limits_{x \to 2} f(x) =$

   (c) $\lim\limits_{x \to 2} 4g(x) =$

   (d) $\lim\limits_{x \to 3} \big(2f(x) - g(x)\big) =$

   (e) $\lim\limits_{x \to -2} \dfrac{3 + f(x)}{\sqrt{7 + g(x)}} =$

$y = f(x)$

$y = g(x)$
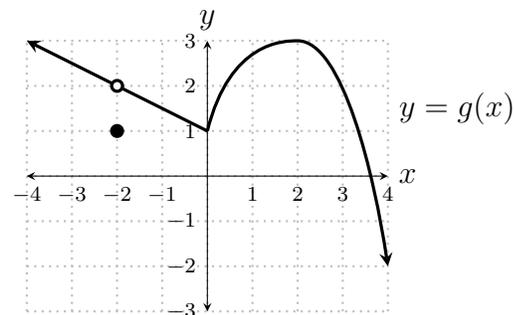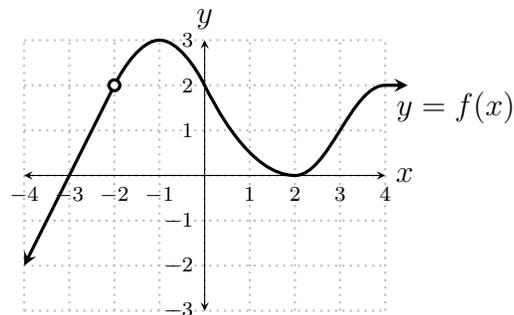
2. $\lim\limits_{x \to -1} \dfrac{3^x}{x^2 + 1} =$

3. $\lim\limits_{x \to 2} \left(\dfrac{5}{2x^2} - \dfrac{1}{2} \right)^{2/3} =$

4. Draw the graph of **one** function f, with domain $[-4, -2) \cup (-2, 4]$, meeting the following conditions.

   (a) $\lim\limits_{x \to -2^-} f(x) = 2$

   (b) $\lim\limits_{x \to -2} f(x)$ DNE

   (c) $\lim\limits_{x \to 2} f(x) = 1$

   (d) $f(0) = f(2)$