



# Calculus 1 Workbook

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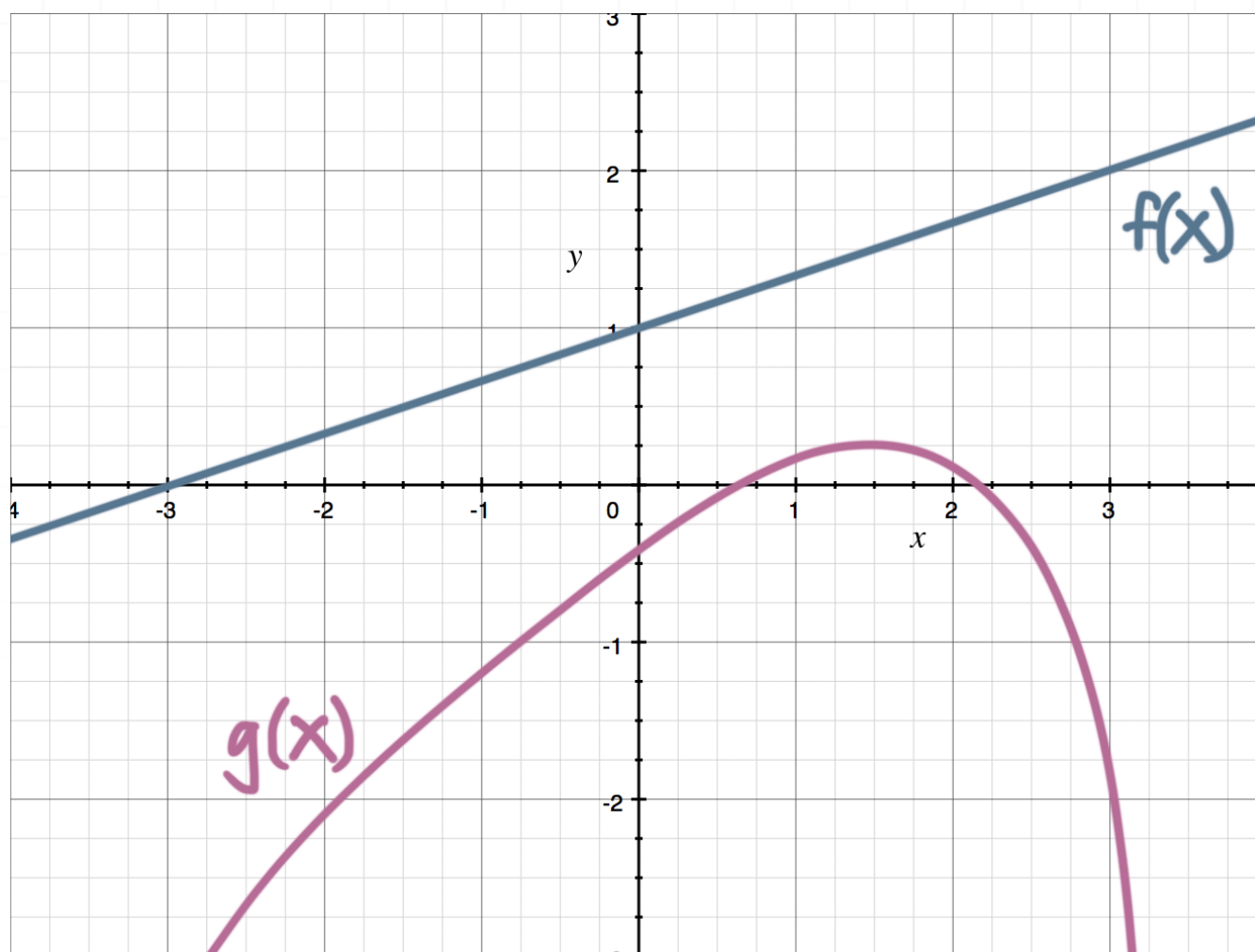
Combinations and composites

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MATH

## LIMITS OF COMBINATIONS

- 1. Use limit laws and the graph below to evaluate the limit.

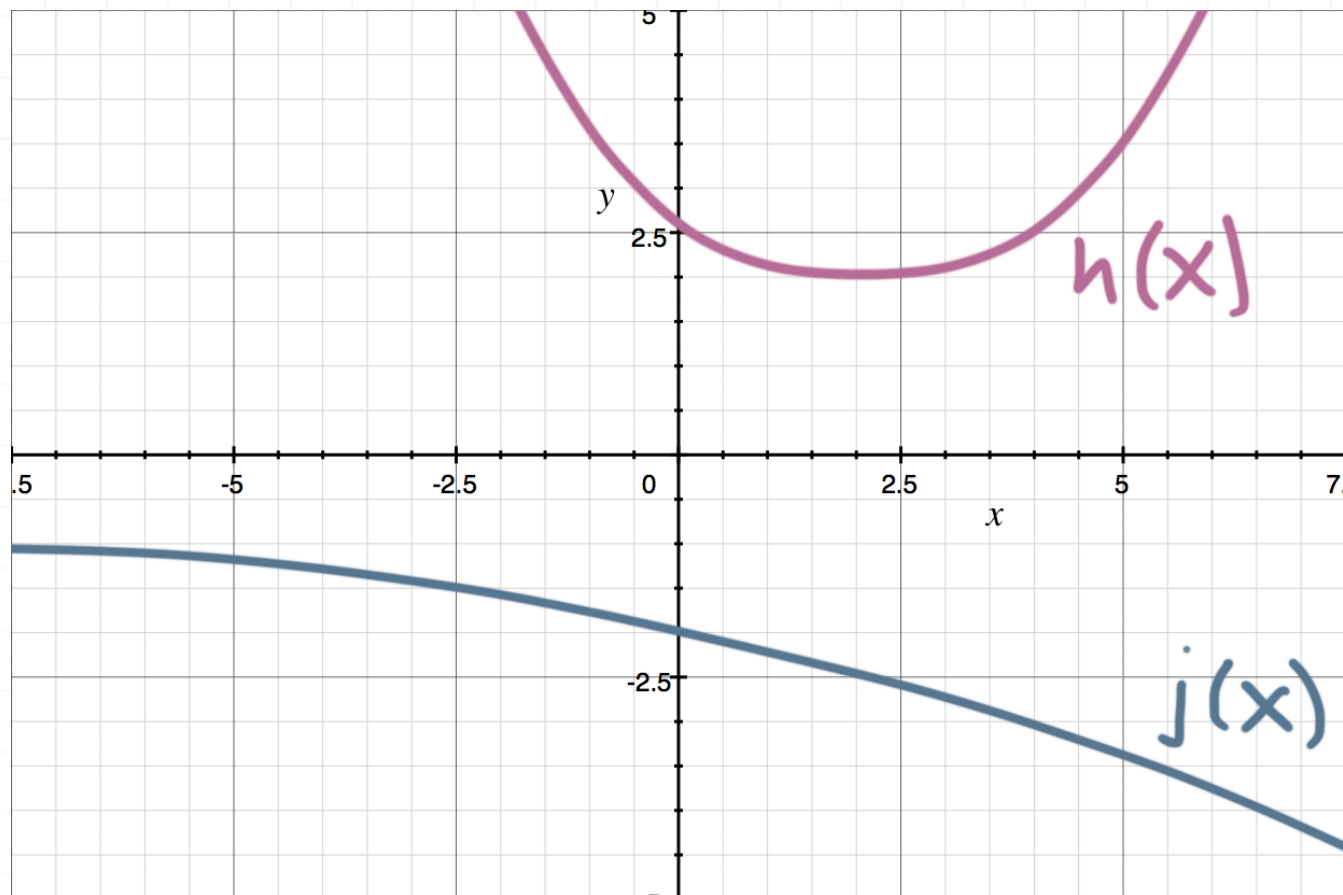
$$\lim_{x \rightarrow 3} [4f(x) - 3g(x)]$$



- 2. Use limit laws and the graph below to evaluate the limit.

$$\lim_{x \rightarrow 4} \frac{h(x)}{j(x)}$$

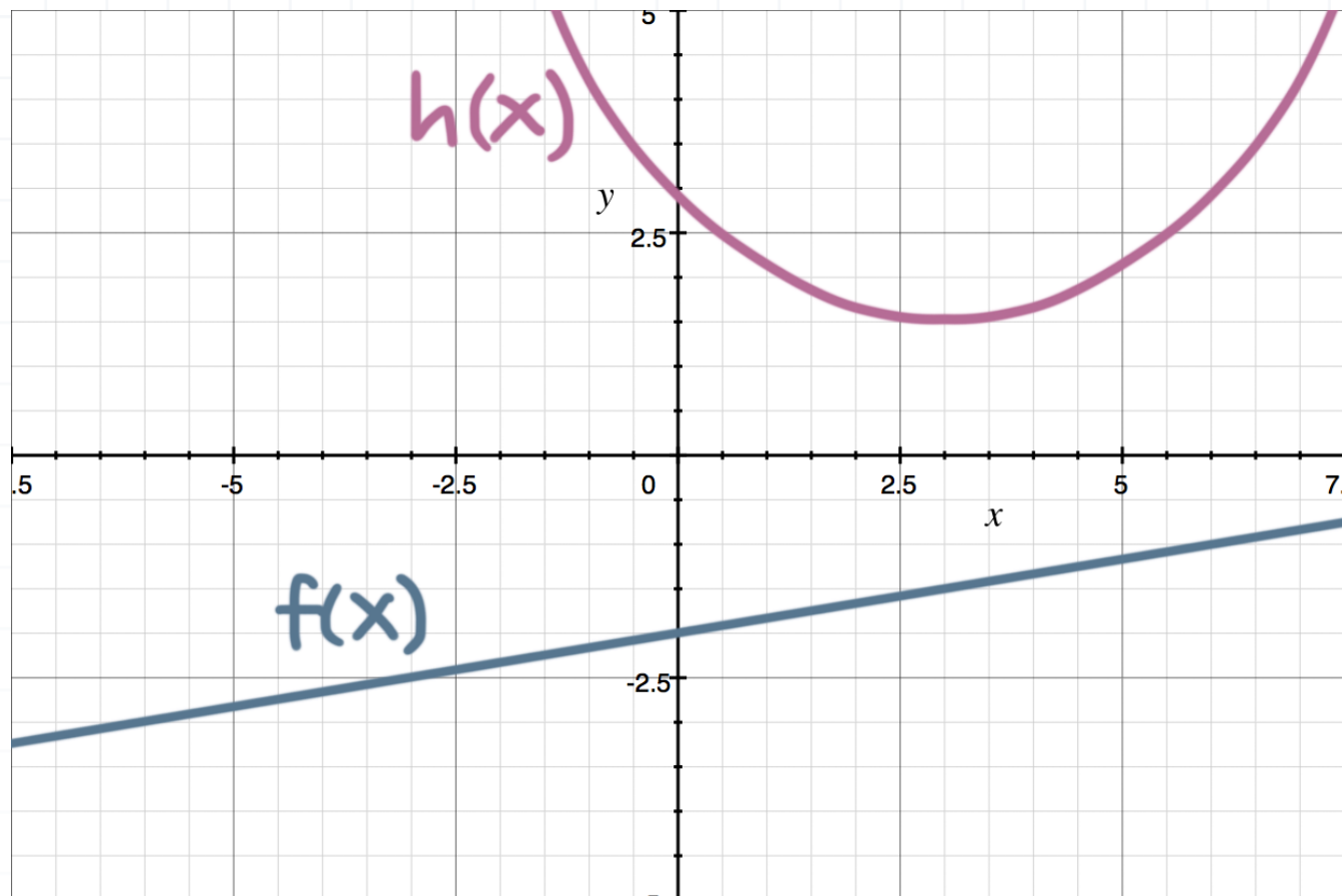




- 3. Use limit laws and the graph below to evaluate the limit.

$$\lim_{x \rightarrow 0} [2f(x) \cdot 3h(x)]$$

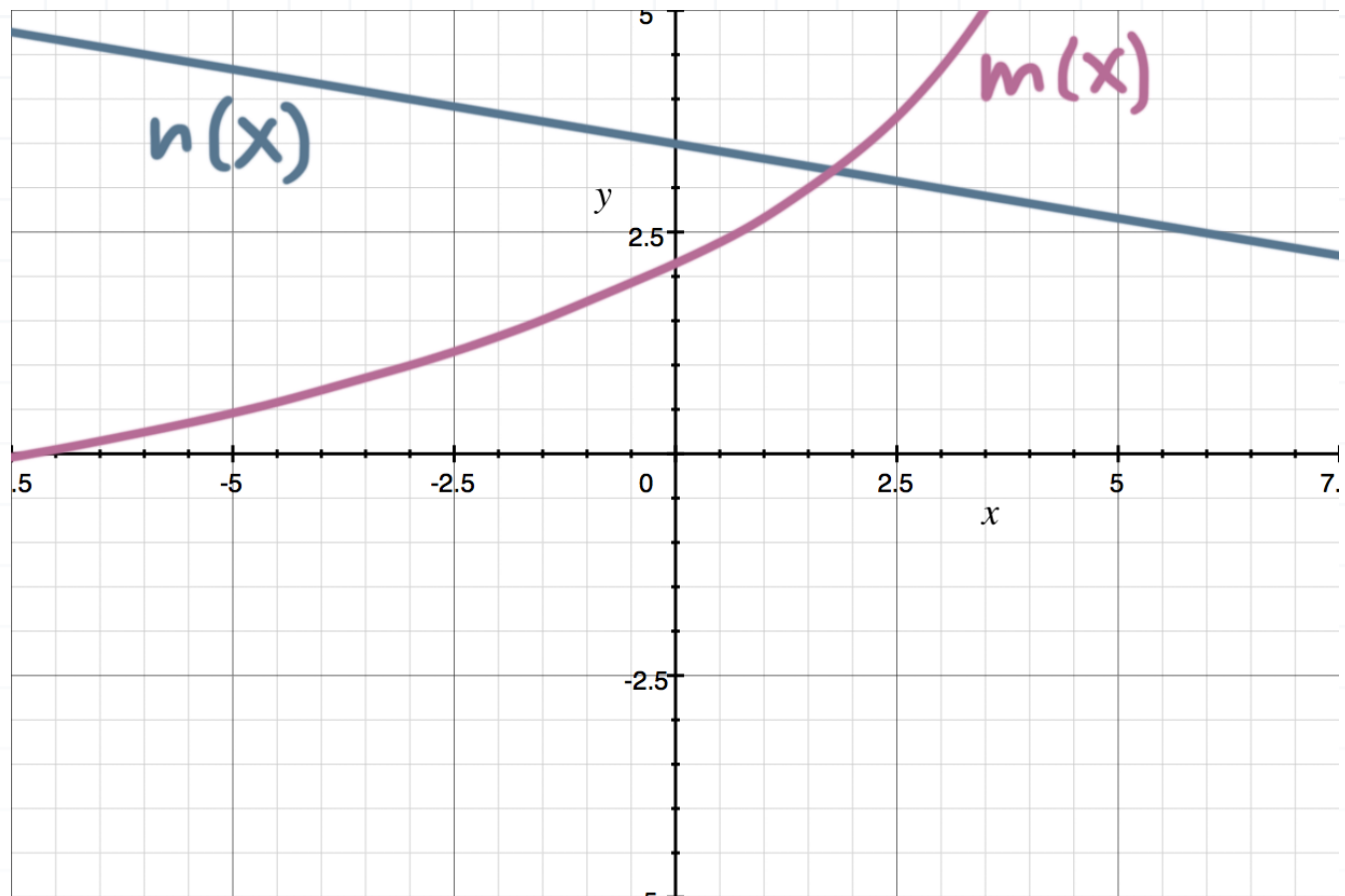




- 4. Use limit laws and the graph below to evaluate the limit.

$$\lim_{x \rightarrow -3} \left[ \frac{5m(x)}{n(x)} - \frac{4m(x)}{n(x)} \right]$$





## LIMITS OF COMPOSITES

■ 1. What is  $\lim_{x \rightarrow 3} f(g(x))$  if  $f(x) = 4x$  and  $g(x) = 6x - 9$ ?

■ 2. What is  $\lim_{x \rightarrow -4} f(g(x))$  if  $f(x) = 2x^2$  and  $g(x) = 2x - 1$ ?

■ 3. What is  $\lim_{x \rightarrow \frac{\pi}{2}} f(g(x))$  if  $f(x) = \sin x$  and  $g(x) = x/2$ ?



