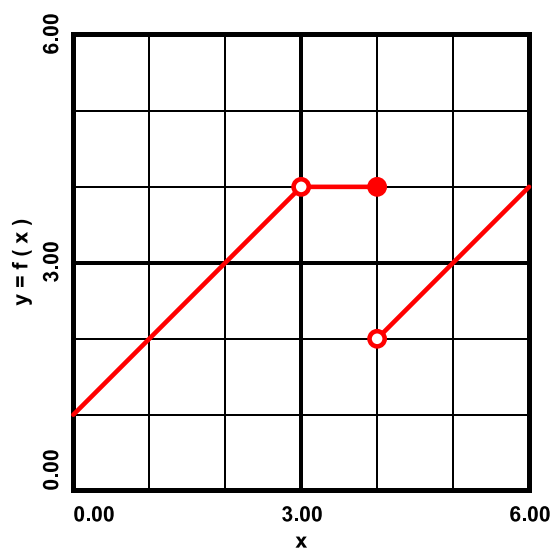


1) For  $y = f(x)$  shown,



calculate  $\lim_{x \rightarrow a^-} f(x)$ ,  $\lim_{x \rightarrow a^+} f(x)$  and  $\lim_{x \rightarrow a} f(x)$   
for

a)  $a = 3$

b)  $a = 4$

3) Calculate

a)

$$\lim_{x \rightarrow 0} x \cdot \sin x$$

b)

$$\lim_{x \rightarrow 0} x \cdot \sin\left(\frac{1}{x}\right)$$

c)

$$\lim_{x \rightarrow -2} \ln|x^2 - 4|$$

d)

$$\lim_{x \rightarrow 2} \ln|x^2 - 4|$$

2) Calculate  $\lim_{x \rightarrow 3} f(x)$  for

a)

$$f(x) = \frac{1}{|x - 3|}$$

b)

$$f(x) = \frac{1}{x - 3}$$