

$$\textcircled{51} \lim_{h \rightarrow 0} \frac{(5+h)^3 - 125}{h}$$

$$\lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$$

$$f(x) = x^3 \text{ @ } x = 5$$

$$\textcircled{52} \lim_{x \rightarrow 5} \frac{x^3 - 125}{x - 5}$$

$$\lim_{x \rightarrow c} \frac{f(x) - f(c)}{x - c}$$

$$f(x) = x^3 \text{ @ } x = 5$$

$$\textcircled{53} \lim_{h \rightarrow 0} \frac{\sin\left(\frac{\pi}{6} + h\right) - 0.5}{h}$$

$$f(x) = \sin x \text{ @ } x = \frac{\pi}{6}$$

$$\textcircled{54} \lim_{x \rightarrow \frac{1}{4}} \frac{x^{-1} - 4}{x - \frac{1}{4}}$$

$$f(x) = x^{-1} \text{ @ } x = \frac{1}{4}$$

$$\textcircled{55} \lim_{h \rightarrow 0} \frac{5^{2+h} - 25}{h}$$

$$f(x) = 5^x \text{ @ } x = 2$$

$$\textcircled{56} \lim_{h \rightarrow 0} \frac{5^h - 1}{h}$$

$$f(x) = 5^x \text{ @ } x = 0$$

Sec. 3.2

p. 139 # 43, 45, 66

(43) A III  
B I  
C II  
D III

A and D increase and dec @ the same spot

(45) A  $f(x)$   
B  $h(x)$   
C  $g(x)$

(66) A III  
B I  
C II