SECTION 2.5

2.5.1 Find $\lim_{\theta \to 0} \dfrac{\tan\theta}{\theta}$.

2.5.2 Find $\lim_{\theta \to 0} \dfrac{\sin 2\theta}{\tan\theta}$.

2.5.3 Find $\lim_{\alpha \to 0} \dfrac{\sin\alpha - \tan\alpha}{\sin^3\alpha}$.

2.5.4 Find $\lim_{\theta \to 0} \theta \cot 4\theta$.

2.5.5 Find $\lim_{\theta \to 0} \dfrac{\sin\sqrt{2\theta}}{\sqrt{\theta}}$.

2.5.6 Find $\lim_{\phi \to 0} \dfrac{\phi^2}{\sin 3\phi^2}$.

2.5.7 Find $\lim_{\theta \to 0} \dfrac{3}{\theta \csc\theta}$.

2.5.8 Find $\lim_{\phi \to 0} \dfrac{\sin 3\phi}{\sin 2\phi}$.

2.5.9 Find $\lim_{\alpha \to 0} \dfrac{\alpha}{\cos\alpha}$.

2.5.10 Find $\lim_{t \to 0} \dfrac{t^2}{1 - \cos^2 t}$.

2.5.11 Find $\lim_{\phi \to 0} \dfrac{3\phi}{\cos 2\phi}$.

2.5.12 Find $\lim_{\theta \to 0} \dfrac{\sin^2\theta}{\tan\theta}$.

2.5.13 Find $\lim_{t \to 0} \dfrac{\sin t}{t^2 + 5t}$.

2.5.14 Find $\lim_{\alpha \to 0} \dfrac{3\alpha^2 + \sin 4\alpha}{\alpha}$.

2.5.15 Find $\lim_{\theta \to 0} \dfrac{\sin^2 \dfrac{\theta}{2}}{\theta^2}$.

2.5.16 Find $\lim_{x \to 0} \dfrac{\cos\left(\dfrac{\pi}{2} + x\right)}{x}$.

2.5.17 Find a value for the constant k so that

$$f(\theta) = \begin{cases} \dfrac{\theta}{\sin 2\theta}, & \theta \neq 0 \\ k, & \theta = 0 \end{cases}$$

will be continuous at $\theta = 0$.

2.5.18 Find a value for the constant k so that

$$f(\theta) = \begin{cases} \dfrac{\sin 3\theta}{2\theta}, & \theta \neq 0 \\ k, & \theta = 0 \end{cases}$$

will be continuous at $\theta = 0$.

2.5.19 Find a value for the constant k so that

$$f(\theta) = \begin{cases} \dfrac{\tan\theta}{\theta}, & \theta \neq 0 \\ k, & \theta = 0 \end{cases}$$

will be continuous at $\theta = 0$.