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**2015 8** What is the value of  $\lim_{x \rightarrow 3} \frac{\sin(x-3)}{(x-3)(x+2)}$ ? **1**

(A) 0

(B)  $\frac{1}{5}$

(C) 5

(D) Undefined

**B**

$$\begin{aligned}\lim_{x \rightarrow 3} \frac{\sin(x-3)}{(x-3)(x+2)} &= \lim_{x \rightarrow 3} \left[ \frac{\sin(x-3)}{x-3} \times \frac{1}{x+2} \right] \\ &= 1 \times \frac{1}{5} \\ &= \frac{1}{5}\end{aligned}$$

State Mean:  
**0.6**

\* These solutions have been provided by [projectmaths](#) and are not supplied or endorsed by BOSTES.