

Evaluate:

1

$$\lim_{x \rightarrow 4} \left(\frac{x^2 - 6x + 8}{x - 2} \right)$$

2

$$\lim_{x \rightarrow 9} \left(\frac{\sqrt{x} - 3}{x - 9} \right)$$

reset

Bellwork 9/15 - Solutions

1

$$\begin{aligned}\lim_{x \rightarrow 4} \left(\frac{x^2 - 6x + 8}{x - 2} \right) \\&= \lim_{x \rightarrow 4} \left[\frac{(x - 4)(x - 2)}{x - 2} \right] \\&= \lim_{x \rightarrow 4} (x - 4) \\&= \boxed{0}\end{aligned}$$

2

$$\begin{aligned}\lim_{x \rightarrow 9} \left(\frac{\sqrt{x} - 3}{x - 9} \right) \\&= \lim_{x \rightarrow 9} \left[\frac{\sqrt{x} - 3}{(\sqrt{x})^2 - 3^2} \right] \\&= \lim_{x \rightarrow 9} \left[\frac{\sqrt{x} - 3}{(\sqrt{x} - 3)(\sqrt{x} + 3)} \right] \\&= \lim_{x \rightarrow 9} \left(\frac{1}{\sqrt{x} + 3} \right) \\&= \boxed{\frac{1}{6}}\end{aligned}$$