

Worksheet IIIA
LIMITS
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1. Consider $f(x) = \frac{1}{2} \cdot [x] + 3$ where $f : \mathbb{R} \rightarrow \mathbb{R}$.

A. Find

$$\lim_{x \rightarrow \frac{1}{2}} (f(x))$$

B. Find

$$\lim_{x \rightarrow 1} (f(x))$$

C. Find

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

D. Find

$$\lim_{x \rightarrow 2} (f(x))$$

2. Consider $g(x) = \left\lceil \frac{1}{2} \cdot x \right\rceil + 3$ where $f : \mathbb{R} \rightarrow \mathbb{R}$.

A. Find

$$\lim_{x \rightarrow \frac{1}{2}} (g(x))$$

B. Find

$$\lim_{x \rightarrow 1} (g(x))$$

C. Find

$$\lim_{x \rightarrow \frac{3}{2}} (g(x))$$

D. Find

$$\lim_{x \rightarrow 2} (g'(x))$$