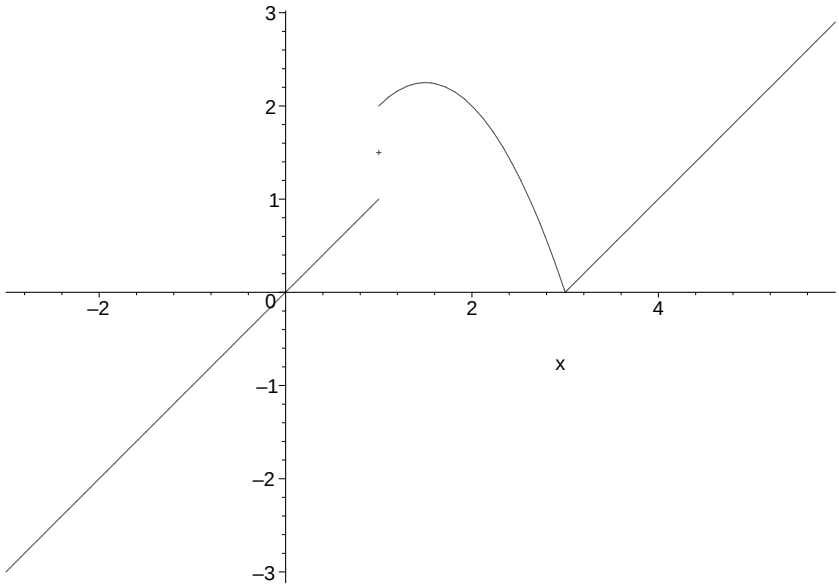
Mathematics I **Worksheet 3** Name:

Use the graph below to answer the following questions 1-8:



1. Find $\lim_{x \to 1^+} f(x)$.

2. Find $\lim_{x \to 1^-} f(x)$.

3. Find $\lim_{x \to 1} f(x)$.

4. Find $\lim_{x \to 3^+} f(x)$.

5. Find $\lim_{x \to 3^-} f(x)$.

6. Find $\lim_{x \to 3} f(x)$.

7. Find $f(1)$.

8. Find $f(3)$.

9. Find $\lim_{x \to 0} \dfrac{x^2 - x - 2}{x + 2}$.

10. Find $\lim_{x \to 2} \dfrac{x^2 - x - 2}{x - 2}$.

11. Find $\lim_{x \to 2} \dfrac{x^2 - x - 2}{x + 2}$.

12. Find $\lim_{x \to 3} \dfrac{\sqrt{x + 6} - 3}{x - 3}$.

13. Find $\lim_{x \to 0} \dfrac{\sin x}{x}$.

14. Find $\lim_{x \to 1} \dfrac{\sin(x - 1)}{x - 1}$.

15. Find $\lim_{x \to 0} \dfrac{\sin(3x)}{x}$.