

**SATPREP**Assignment : *Limit algebraic*

Find the following limits:

1.  $\lim_{x \rightarrow 3} x^2 + 2x - 7 =$

9.  $\lim_{x \rightarrow -1} \frac{\frac{1}{x} + 1}{x + 1} =$

2.  $\lim_{x \rightarrow 5} \frac{x^2 - 2x - 15}{x - 5} =$

10.  $\lim_{x \rightarrow 0} \frac{(x + 1)^2 - 1}{x} =$

3.  $\lim_{x \rightarrow 1} \frac{4x^4 - 5x^2 + 1}{x^2 + 2x - 3} =$

11.  $\lim_{x \rightarrow -3} \frac{2x^2 + 2x - 12}{x^2 + 4x + 3} =$

4.  $\lim_{x \rightarrow 2} \frac{(2x + 1)^2 - 25}{x - 2} =$

12.  $\lim_{x \rightarrow 2} \frac{(3x - 2)^2 - (x + 2)^2}{x - 2} =$

5.  $\lim_{x \rightarrow 1} \frac{\frac{2x}{x + 1} - 1}{x - 1} =$

13.  $\lim_{x \rightarrow 2} \frac{\frac{2}{x^2} - \frac{1}{2}}{x - 2} =$

6.  $\lim_{x \rightarrow -2} \frac{x^4 - 2x^2 - 8}{x^2 - x - 6} =$

14.  $\lim_{x \rightarrow 1} \frac{x - 1}{\sqrt{x} - 1} =$

7.  $\lim_{x \rightarrow 0} \frac{x^2 + 7x + 6}{x + 3} =$

15.  $\lim_{x \rightarrow -2} \frac{\frac{x}{x + 4} + 1}{x + 2} =$

8.  $\lim_{x \rightarrow 2} \frac{x^3 + x^2 - 4x - 4}{x^2 + x - 6} =$

16.  $\lim_{x \rightarrow 3} \frac{x^2 - 2x - 3}{x + 5} =$

Answer

1. 8

5.  $\frac{1}{2}$

9.  $-1$

13.  $-\frac{1}{2}$

2. 8

6.  $\frac{24}{5}$

10. 2

14. 2

3.  $\frac{3}{2}$

7. 2

11. 5

15. 1

4. 20

8.  $\frac{12}{5}$

12. 16

16. 0

