

Name: _____

TC

Classwork 10

1. Find each limit.

a) $\lim_{x \rightarrow \infty} \frac{10 - x^4}{x^3}$

b) $\lim_{x \rightarrow 3} \frac{x - 3}{x^3 + 4x^2 - 21x}$

2. Find $\lim_{x \rightarrow \infty} \frac{6x^4 - 2x - 1}{x^4 + 4x^2 - 6}$

3. Find $\lim_{x \rightarrow \infty} \frac{2x^2 - 4x - 10}{x^5 + 3x^2 - 4}$

4. Find $\lim_{x \rightarrow 0} \frac{x^3 + 4x^2 + 7x}{5x^5 - 8x^2}$

5. Find $\lim_{x \rightarrow \infty} \frac{4x^5 + x^3 - 5x^2}{x^7 - 10x^4 + x^2}$

6. Find $\lim_{x \rightarrow 0} \frac{4x^5 + x^3 - 5x^2}{x^7 - 10x^4 + x^2}$

7. Find each limit.

a) $\lim_{x \rightarrow 4} \frac{3x^2 - 48}{x^2 - 5x + 4}$

b) $\lim_{x \rightarrow \infty} \frac{3x^2 - 48}{x^2 - 5x + 4}$

c) $\lim_{x \rightarrow 0} \frac{3x^2 - 48}{x^2 - 5x + 4}$

8. Find $\lim_{x \rightarrow 0} \frac{\sin x}{x}$

9. Find $\lim_{x \rightarrow 9} \frac{x^2 - 81}{\sqrt{x} - 3}$

10. Find $\lim_{x \rightarrow 0} \frac{\sqrt{x^2 + 9} - 3}{x^2}$

Practice Problems

1. Find $\lim_{x \rightarrow 0} \frac{4x^2 - 10x + 7}{5x^2 + 8}$

2. Find $\lim_{x \rightarrow 0} \frac{5x^7 + 3x^3 - 3x^2}{2x^5 - 4x^3 + x^2}$

3. Find $\lim_{x \rightarrow \infty} \frac{7x^3 - 15x^2 + 18x}{4x^7 - 9x^2}$

.