

Name: _____

TC

Classwork 7

1. Find each limit.

a) $\lim_{x \rightarrow -2} \frac{x^6 - 4x^4 - 12x^2}{3x + 6}$

b) $\lim_{x \rightarrow 2} \frac{4x^4 - 64}{x - 2}$

c) $\lim_{x \rightarrow 0} \frac{x - 4}{x}$

d) $\lim_{x \rightarrow \infty} \frac{4x^4 + x^2 + 5}{x^4}$

2. Find each limit using the graph of $f(x)$

a) $\lim_{x \rightarrow \infty} f(x) =$

b) $\lim_{x \rightarrow -\infty} f(x) =$

c) $\lim_{x \rightarrow -4} f(x) =$

d) $f(-4) =$

e) $\lim_{x \rightarrow 5^-} f(x) =$

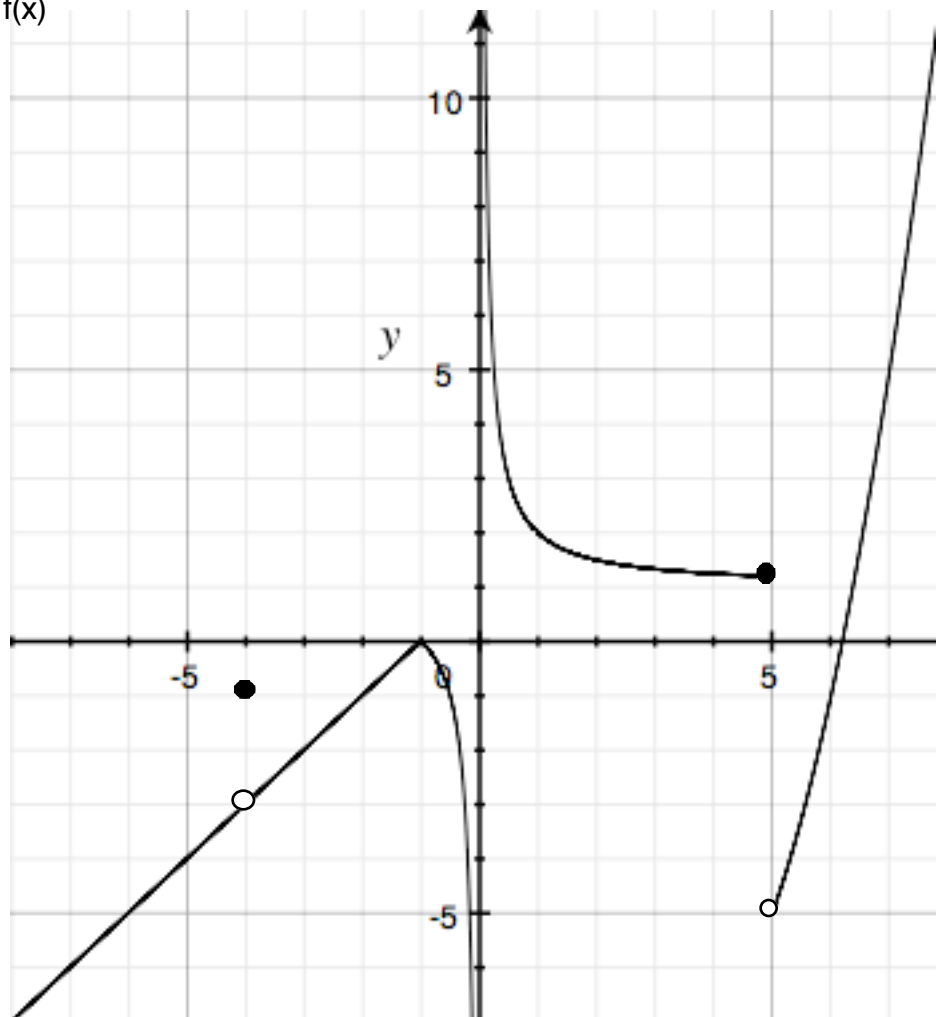
f) $\lim_{x \rightarrow 5^+} f(x) =$

g) $\lim_{x \rightarrow 5} f(x) =$

h) $\lim_{x \rightarrow 0} f(x) =$

i) $\lim_{x \rightarrow 0} f(x) =$

j) $\lim_{x \rightarrow 0^+} f(x) =$



3. Find $\lim_{x \rightarrow \infty} \frac{x^6 + x^2 + 5x + 2}{3x^4 + 8x^3 - 7}$

4. Find $\lim_{x \rightarrow \infty} \frac{x^7 + 5x^4 - 3}{3x^7 - 2x^2 + 1}$

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

6. Find the limit of the equation in #5 as $x \rightarrow 0$

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

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

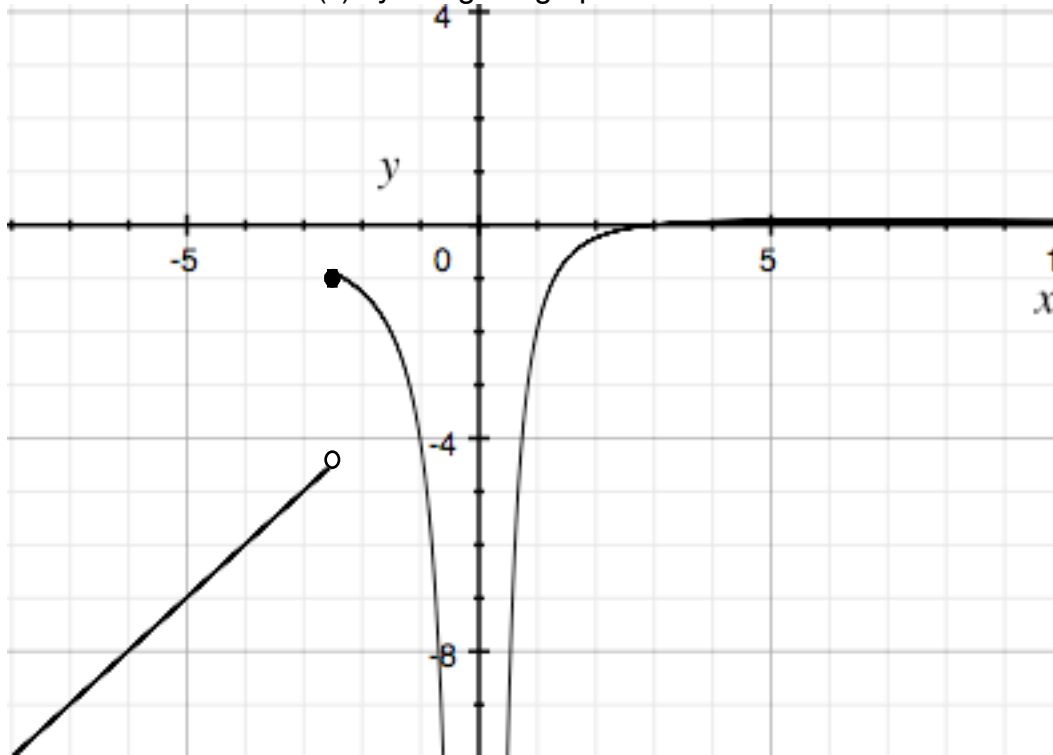
9. Find $\lim_{x \rightarrow 0} \frac{\sqrt{x^2 + 9} - 3}{x^2}$

Practice Problems

1. Find $\lim_{x \rightarrow 3} \frac{x^2 - 8x + 15}{x^2 - 9}$

2. Find $\lim_{x \rightarrow \infty} \frac{6x^6 + 2x^3 - 1}{x^7}$

3. Find the limits for $f(x)$ by using the graph of the function below.



a) $\lim_{x \rightarrow \infty} f(x) =$

b) $\lim_{x \rightarrow -\infty} f(x) =$

c) $\lim_{x \rightarrow -2.5+} f(x) =$

d) $\lim_{x \rightarrow -2.5-} f(x) =$

e) $\lim_{x \rightarrow -2.5} f(x) =$

f) $f(-2.5) =$

g) $\lim_{x \rightarrow 0-} f(x) =$

h) $\lim_{x \rightarrow 0+} f(x) =$

i) $\lim_{x \rightarrow 0} f(x) =$