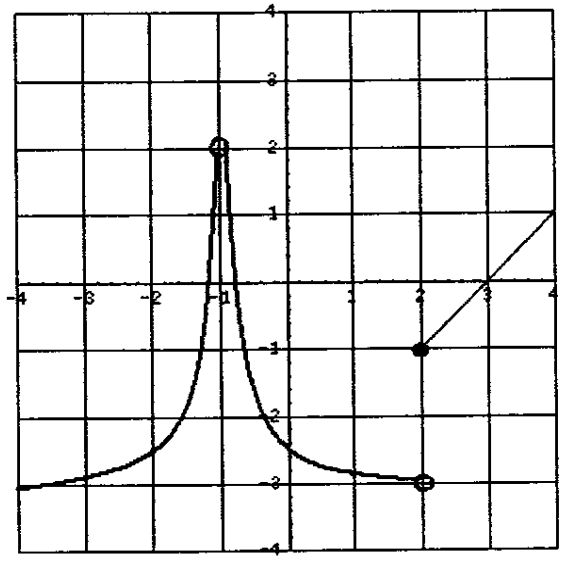
Solve:

1) $\lim_{x \to 3} \dfrac{-2x^2 + 5x + 3}{x - 3} =$

2) $\lim_{x \to -2} \dfrac{-4x^2 - 8x}{x + 2} =$

3) A function is graphed below.



a.) $\lim_{x \to 2^+} f(x) =$

c.) $\lim_{x \to 2} f(x) =$

b.) $\lim_{x \to 2^-} f(x) =$

d.) $\lim_{x \to -1} f(x) =$

4) $\lim_{x \to -3} x^3 =$

5) $\lim_{x \to 0} -4 =$

6) $\lim_{x \to 5} x =$

7) $\lim_{x \to -2} x^3 =$

8) $\lim_{x \to -5} x^5 =$

9) $\lim_{x \to -3} 1 =$

10) $\lim_{x \to -4} -1 =$

11) $\lim_{x \to -1} x^2 =$

12) What are the vertical asymptotes of:

$$r(x) = \frac{x^2 - 7x + 12}{x^2 - x - 6}$$

VA =

HA =

Hole =

13) $\lim_{x \to \infty} \frac{2x^3 + 9x^2 - 5x}{4x^3 + 8x^2 + 5x + 1} =$

14) What are the horizontal asymptotes of:

$$r(x) = \frac{-x^3 + 3x^2 - 2x - 1}{-x^3 + x^2 + 3x + 1}$$

15) What are the horizontal asymptotes of:

$$t(x) = \frac{-x^2 + 4x - 4}{4x^2 + x - 2}$$