PRACTICE 5.1 – Limits

Exercise 5A

Use technology to examine each function numerically and graphically. Find the limit as x tends toward the given value, if it exists.

3
$$\lim_{x\to 0} \frac{2x^2-x}{x}$$

1
$$\lim_{x\to 3} (x^2+1)$$

4
$$\lim_{x \to 1} \frac{x^2 - x}{x - 1}$$

2
$$\lim_{x \to 1} (5 - 2x)$$

Exercise 5B

State the equations of any vertical and horizontal asymptotes for each of the following functions.

$$f(x) = \frac{3x}{6x-1}$$

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

2
$$g(x) = \frac{x^2 + 3}{3 - x^2}$$
 3 $h(x) = \frac{1 - x - x^3}{x^3 - 1}$ 4 $k(x) = -\frac{5x}{x^2 - 2}$

4
$$k(x) = -\frac{5x}{x^2 - 2}$$