



---

A function is defined on a suitable domain by  $f(x) = \frac{3x^2 + 2}{x^2 - 2}$ .

- (a) Obtain equations for the asymptotes of the graph of  $y = f(x)$ . 3
- (b) Determine whether the graph of  $y = f(x)$  has any points of inflection.  
Justify your answer. 5
- 

Answers:

- (a) Vertical asymptotes:  $x = \pm\sqrt{2}$   
Horizontal asymptote:  $y = 3$
- (b)  $f''(x)$  is undefined only when  $x = \pm\sqrt{2}$ .  
Since  $f(x)$  is undefined at these values, there is no point of inflection.