Consider the rational function $f(x) = \dfrac{3x^2 - 9}{2x^2 - 25}$.

Exercise 1 *List the zeroes of f from left to right.*

$$\boxed{-\sqrt{3}} \quad \text{and} \quad \boxed{\sqrt{3}}$$

Exercise 2 *List the vertical asymptotes of f from left to right.*

$$x = \boxed{-\frac{5}{\sqrt{2}}} \quad \text{and} \quad x = \boxed{\frac{5}{\sqrt{2}}}$$

Exercise 3 *What is the end behavior of f?*

$$\text{As } x \to \infty, \quad f(x) \to \boxed{\frac{3}{2}}$$

$$\text{As } x \to -\infty, \quad f(x) \to \boxed{\frac{3}{2}}$$

Exercise 4 *Which of the following are horizontal asymptotes of f? (Choose all that apply)*

Select All Correct Answers:

(a) $y = 0$

(b) $y = \dfrac{3}{2}$ ✓

(c) $y = -\dfrac{3}{2}$

(d) $y = 1$

(e) $y = \pm\sqrt{3}$

(f) $y = \pm\dfrac{5}{\sqrt{2}}$

Exercise 5 *What is the y-intercept of f?*

$$\left(0, \boxed{\frac{9}{25}}\right)$$

Exercise 6 *Which of the following could be the graph of f?*

Multiple Choice:

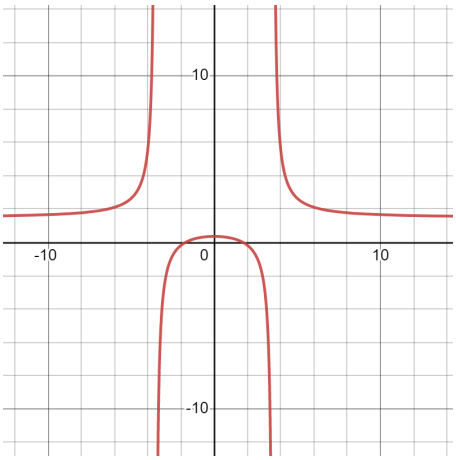
(a) *Graph A* ✓

(b) *Graph B*

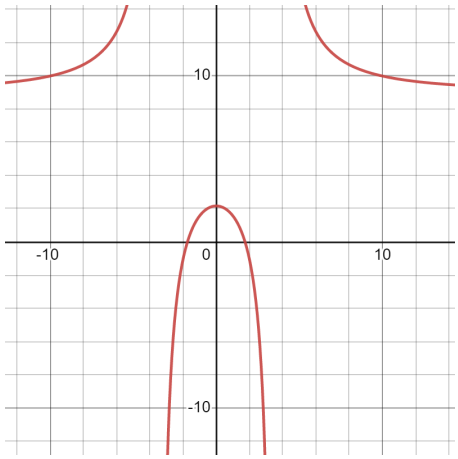
(c) *Graph C*

(d) *Graph D*

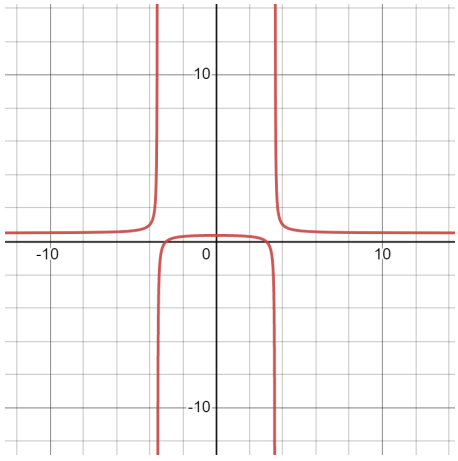
Graph A



Graph B



Graph C



Graph D