1. Determine the horizontal and/or oblique asymptotes in the rational function below.

$$f(x) = \frac{6x^3 - 5x^2 - 66x - 40}{3x^2 - 10x - 8}$$

A. Horizontal Asymptote of $y = 2.0$ and Oblique Asymptote of $y = 2x + 5$

B. Oblique Asymptote of $y = 2x + 5$.

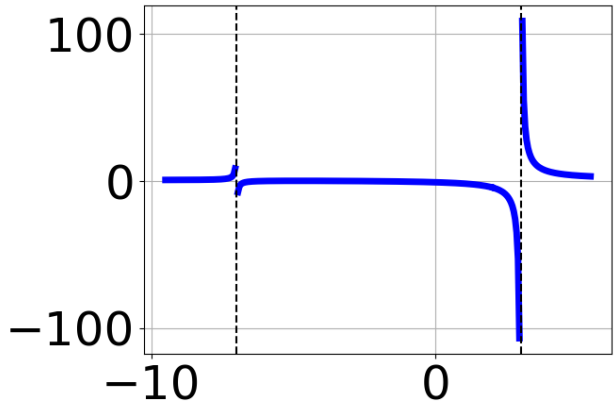
C. Horizontal Asymptote of $y = 2.0$

D. Horizontal Asymptote at $y = 4.0$

E. Horizontal Asymptote of $y = 4.0$ and Oblique Asymptote of $y = 2x + 5$

---

2. Which of the following functions *could* be the graph below?



A. $f(x) = \dfrac{x^3 - 7x^2 + 36}{x^3 - 2x^2 - 29x - 42}$

B. $f(x) = \dfrac{x^3 - 7x^2 + 36}{x^3 - 2x^2 - 29x - 42}$

C. $f(x) = \dfrac{x^3 + 7x^2 - 36}{x^3 + 2x^2 - 29x + 42}$

D. $f(x) = \dfrac{x^3 + 11x^2 + 36x + 36}{x^3 + 2x^2 - 29x + 42}$

E. None of the above are possible equations for the graph.

3. Determine the horizontal and/or oblique asymptotes in the rational function below.

$$f(x) = \frac{3x^2 - 13x + 12}{15x^3 + 31x^2 - 104x + 48}$$

A. Horizontal Asymptote of $y = 0.200$

B. Horizontal Asymptote at $y = 3.000$

C. Horizontal Asymptote of $y = 0.200$ and Oblique Asymptote of $y = 5x + 32$

D. Horizontal Asymptote of $y = 0$

E. Oblique Asymptote of $y = 5x + 32$.

4. Determine the vertical asymptotes and holes in the rational function below.

$$f(x) = \frac{12x^3 - 67x^2 + 113x - 60}{12x^2 - 35x + 25}$$

A. Holes at $x = 1.667$ and $x = 1.25$ with no vertical asymptotes.

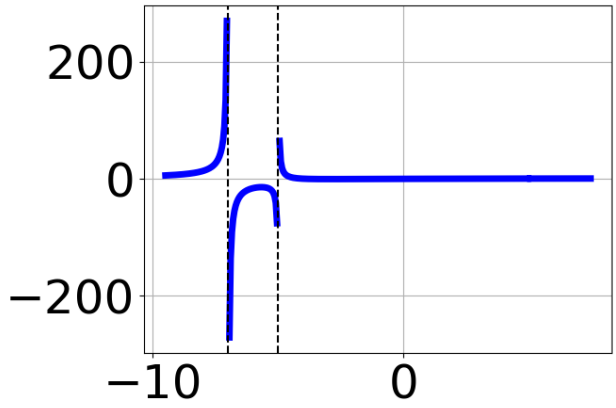
B. Vertical Asymptote of $x = 1.0$ and hole at $x = 1.25$

C. Vertical Asymptote of $x = 1.667$ and hole at $x = 1.25$

D. Vertical Asymptotes of $x = 1.667$ and $x = 1.25$ with no holes.

E. Vertical Asymptotes of $x = 1.667$ and $x = 1.333$ with a hole at $x = 1.25$

5. Which of the following functions *could* be the graph below?



A. $f(x) = \dfrac{x^3 + 3x^2 - 18x - 40}{x^3 - 7x^2 - 25x + 175}$

B. $f(x) = \dfrac{x^3 - 3x^2 - 18x + 40}{x^3 + 7x^2 - 25x - 175}$

C. $f(x) = \dfrac{x^3 + x^2 - 10x + 8}{x^3 + 7x^2 - 25x - 175}$

D. $f(x) = \dfrac{x^3 + 3x^2 - 18x - 40}{x^3 - 7x^2 - 25x + 175}$

E. None of the above are possible equations for the graph.

---

6. Determine the vertical asymptotes and holes in the rational function below.

$$f(x) = \frac{16x^3 - 48x^2 - 9x + 27}{12x^2 + 25x + 12}$$

A. Vertical Asymptotes of $x = -1.333$ and $x = -0.75$ with no holes.

B. Vertical Asymptote of $x = -1.333$ and hole at $x = -0.75$

C. Vertical Asymptote of $x = 1.333$ and hole at $x = -0.75$

D. Vertical Asymptotes of $x = -1.333$ and $x = 0.75$ with a hole at $x = -0.75$

E. Holes at $x = -1.333$ and $x = -0.75$ with no vertical asymptotes.

---

7. Determine the horizontal and/or oblique asymptotes in the rational function below.

$$f(x) = \frac{16x^3 + 8x^2 - 23x - 15}{4x^2 - 13x - 12}$$

A. Horizontal Asymptote at $y = 4.0$

B. Horizontal Asymptote of $y = 4.0$ and Oblique Asymptote of $y = 4x + 15$

C. Horizontal Asymptote of $y = 4.0$

D. Horizontal Asymptote of $y = 4.0$ and Oblique Asymptote of $y = 4x + 15$

E. Oblique Asymptote of $y = 4x + 15$.

---

8. Determine the vertical asymptotes and holes in the rational function below.

$$f(x) = \frac{16x^3 + 16x^2 - 17x - 15}{8x^2 + 22x + 15}$$

A. Holes at $x = -1.5$ and $x = -1.25$ with no vertical asymptotes.

B. Vertical Asymptotes of $x = -1.5$ and $x = -0.75$ with a hole at $x = -1.25$

C. Vertical Asymptote of $x = 2.0$ and hole at $x = -1.25$

D. Vertical Asymptotes of $x = -1.5$ and $x = -1.25$ with no holes.

E. Vertical Asymptote of $x = -1.5$ and hole at $x = -1.25$

---

9. Determine the vertical asymptotes and holes in the rational function below.

$$f(x) = \frac{12x^3 + 41x^2 - 38x - 40}{8x^2 - 22x + 15}$$

A. Vertical Asymptote of $x = 1.5$ and hole at $x = 1.25$

B. Vertical Asymptote of $x = 1.5$ and hole at $x = 1.25$

C. Holes at $x = 1.5$ and $x = 1.25$ with no vertical asymptotes.

D. Vertical Asymptotes of $x = 1.5$ and $x = -0.667$ with a hole at $x = 1.25$

E. Vertical Asymptotes of $x = 1.5$ and $x = 1.25$ with no holes.

---

10. Determine the horizontal and/or oblique asymptotes in the rational function below.

$$f(x) = \frac{2x^2 - 7x + 6}{4x^3 - 8x^2 - 9x + 18}$$

A. Oblique Asymptote of $y = 2x + 3$.

B. Horizontal Asymptote of $y = 0$

C. Horizontal Asymptote at $y = 2.000$

D. Horizontal Asymptote of $y = 0.500$ and Oblique Asymptote of $y = 2x + 3$

E. Horizontal Asymptote of $y = 0.500$
