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

$$f(x) = \frac{6x^3 + 11x^2 - x - 6}{2x^2 - 3x - 9}$$

   A. Oblique Asymptote of $y = 3x + 10$.

   B. Horizontal Asymptote of $y = 3.0$

   C. Horizontal Asymptote at $y = 3.0$

   D. Horizontal Asymptote of $y = 3.0$ and Oblique Asymptote of $y = 3x + 10$

   E. Horizontal Asymptote of $y = 3.0$ and Oblique Asymptote of $y = 3x + 10$

---

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

$$f(x) = \frac{6x^3 + 7x^2 - 50x - 75}{3x^2 + 20x + 25}$$

   A. Horizontal Asymptote of $y = -5.0$ and Oblique Asymptote of $y = 2x - 11$

   B. Horizontal Asymptote of $y = 2.0$

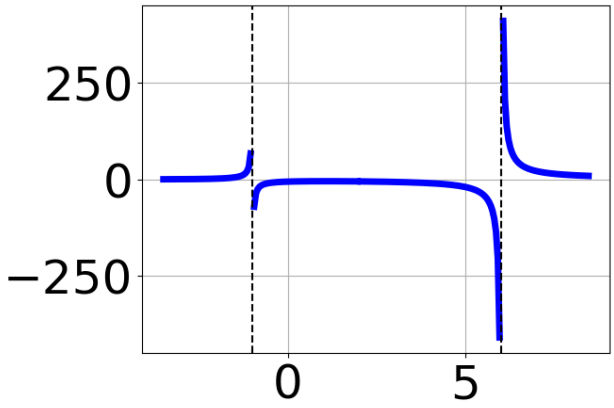
   C. Horizontal Asymptote of $y = 2.0$ and Oblique Asymptote of $y = 2x - 11$

   D. Horizontal Asymptote at $y = -5.0$

   E. Oblique Asymptote of $y = 2x - 11$.

---

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



A. $f(x) = \dfrac{x^3 + 18x^2 + 107x + 210}{x^3 - 7x^2 + 4x + 12}$

B. $f(x) = \dfrac{x^3 + 10x^2 + 11x - 70}{x^3 - 7x^2 + 4x + 12}$

C. $f(x) = \dfrac{x^3 - 10x^2 + 11x + 70}{x^3 + 7x^2 + 4x - 12}$

D. $f(x) = \dfrac{x^3 - 10x^2 + 11x + 70}{x^3 + 7x^2 + 4x - 12}$

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

---

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

$$f(x) = \frac{6x^3 + 43x^2 + 91x + 60}{12x^2 + 5x - 25}$$

A. Vertical Asymptote of $x = 0.5$ and hole at $x = -1.667$

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

C. Vertical Asymptotes of $x = 1.25$ and $x = -1.5$ with a hole at $x = -1.667$

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

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

---

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

$$f(x) = \frac{2x^2 + x - 15}{4x^3 - 20x^2 + x + 60}$$

A. Horizontal Asymptote of $y = 0$

B. Oblique Asymptote of $y = 2x - 11$.

C. Horizontal Asymptote of $y = 2.000$ and Oblique Asymptote of $y = 2x - 11$

D. Horizontal Asymptote at $y = -3.000$

E. Horizontal Asymptote of $y = 2.000$

---

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

$$f(x) = \frac{6x^3 - 19x^2 + 25}{9x^2 - 3x - 20}$$

A. Holes at $x = -1.333$ and $x = 1.667$ with no vertical asymptotes.

B. Vertical Asymptote of $x = 0.667$ and hole at $x = 1.667$

C. Vertical Asymptotes of $x = -1.333$ and $x = 2.5$ with a hole at $x = 1.667$

D. Vertical Asymptotes of $x = -1.333$ and $x = 1.667$ with no holes.

E. Vertical Asymptote of $x = -1.333$ and hole at $x = 1.667$

---

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

$$f(x) = \frac{2x^2 - 3x - 20}{8x^3 + 34x^2 + 41x + 15}$$

A. Horizontal Asymptote of $y = 4.000$ and Oblique Asymptote of $y = 4x + 23$

B. Horizontal Asymptote of $y = 4.000$

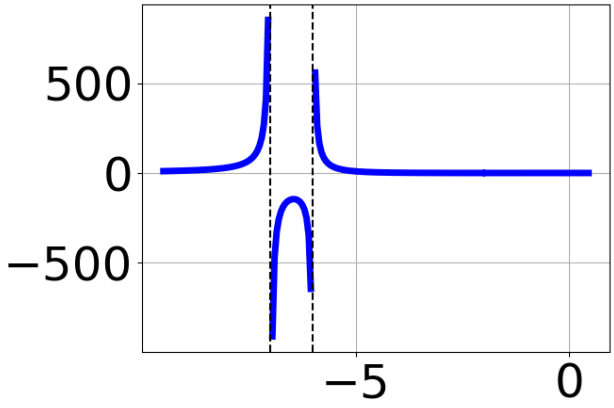
C. Horizontal Asymptote of $y = 0$

D. Horizontal Asymptote at $y = 4.000$

E. Oblique Asymptote of $y = 4x + 23$.

---

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



A. $f(x) = \dfrac{x^3 + x^2 - 14x - 24}{x^3 + 15x^2 + 68x + 84}$

B. $f(x) = \dfrac{x^3 - 3x^2 - 10x + 24}{x^3 + 15x^2 + 68x + 84}$

C. $f(x) = \dfrac{x^3 - 1x^2 - 14x + 24}{x^3 - 15x^2 + 68x - 84}$

D. $f(x) = \dfrac{x^3 - 1x^2 - 14x + 24}{x^3 - 15x^2 + 68x - 84}$

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

---

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

$$f(x) = \frac{16x^3 - 32x^2 - 113x - 60}{12x^2 - 5x - 25}$$

A. Vertical Asymptotes of $x = 1.667$ and $x = -0.75$ with a hole at $x = -1.25$

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

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

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

E. Vertical Asymptote of $x = 1.333$ and hole at $x = -1.25$

---

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

$$f(x) = \frac{6x^3 + 7x^2 - 35x - 50}{6x^2 - 7x - 20}$$

A. Holes at $x = -1.333$ and $x = 2.5$ with no vertical asymptotes.

B. Vertical Asymptote of $x = 1.0$ and hole at $x = 2.5$

C. Vertical Asymptotes of $x = -1.333$ and $x = 2.5$ with no holes.

D. Vertical Asymptotes of $x = -1.333$ and $x = -1.667$ with a hole at $x = 2.5$

E. Vertical Asymptote of $x = -1.333$ and hole at $x = 2.5$
