

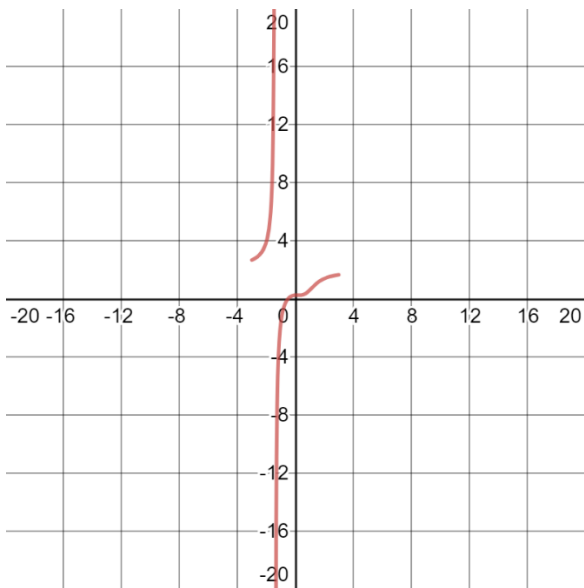
More Slant and Horizontal Asymptote Practice

Find the equation to the slant/horizontal asymptote using limits as $x \rightarrow \infty$. Complete the graphs.

Reminder: Quiz on Tuesday: Slant/Horizontal asymptotes and Concavity (Wednesday's Lesson)

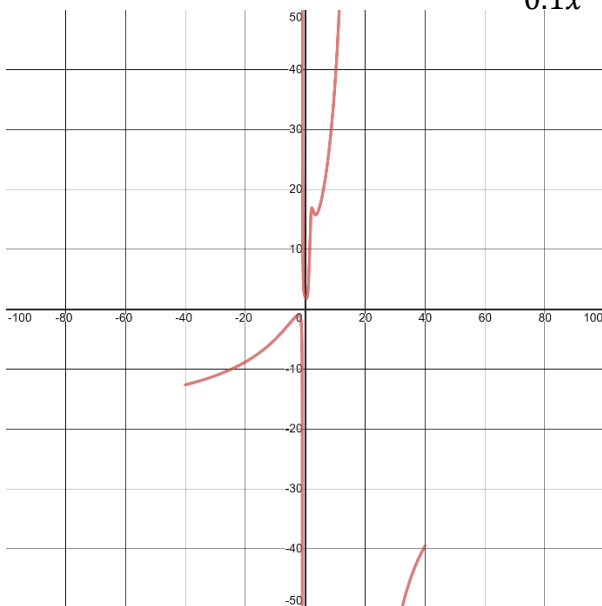
1.

$$\frac{4x^3 - 2x^2 + 1}{2x^3 - x + 4}$$



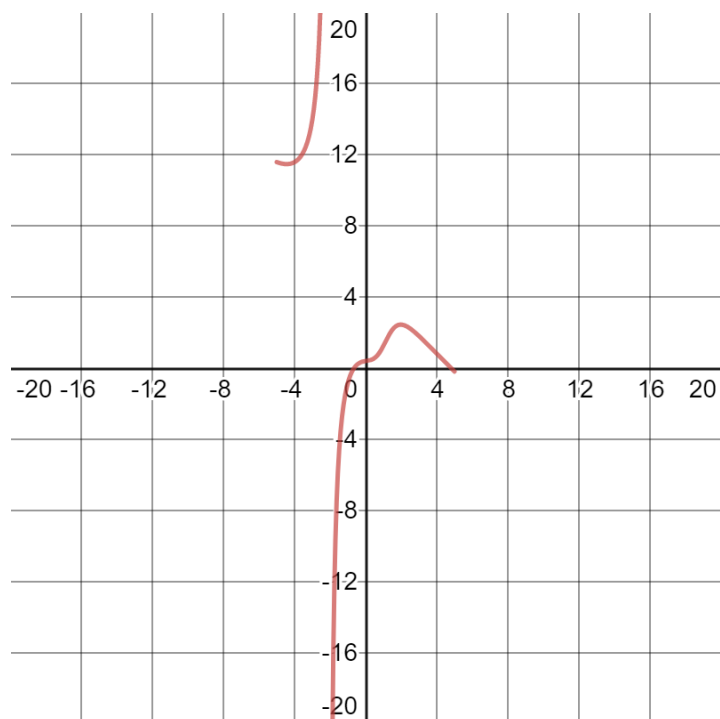
2.

$$\frac{-2x^4 - 3x^3 + 5x - 10}{0.1x^4 - 2x^3 + 4x^2 - 5}$$



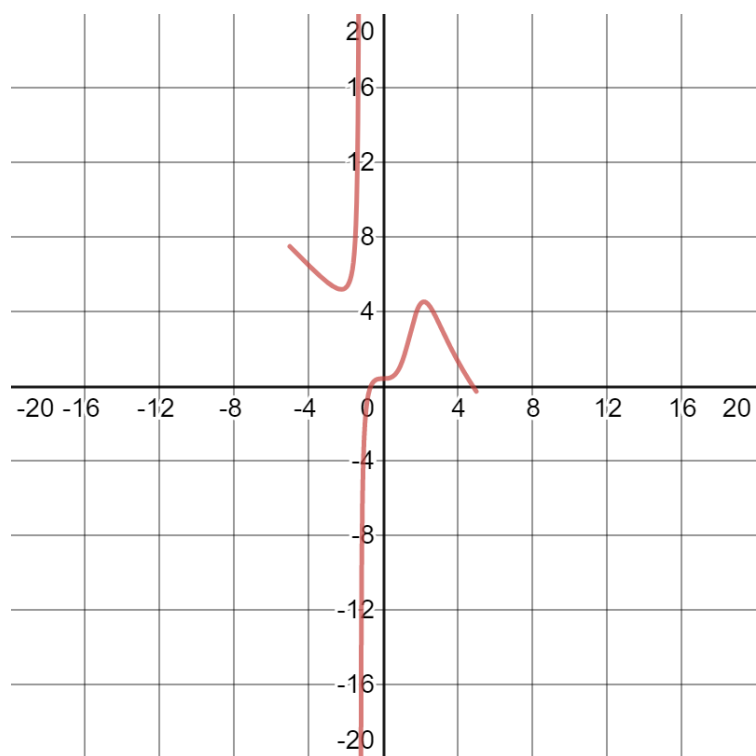
3.

$$\frac{x^4 - 5x^3 + x^2 - 2}{-x^3 + 2x - 5}$$



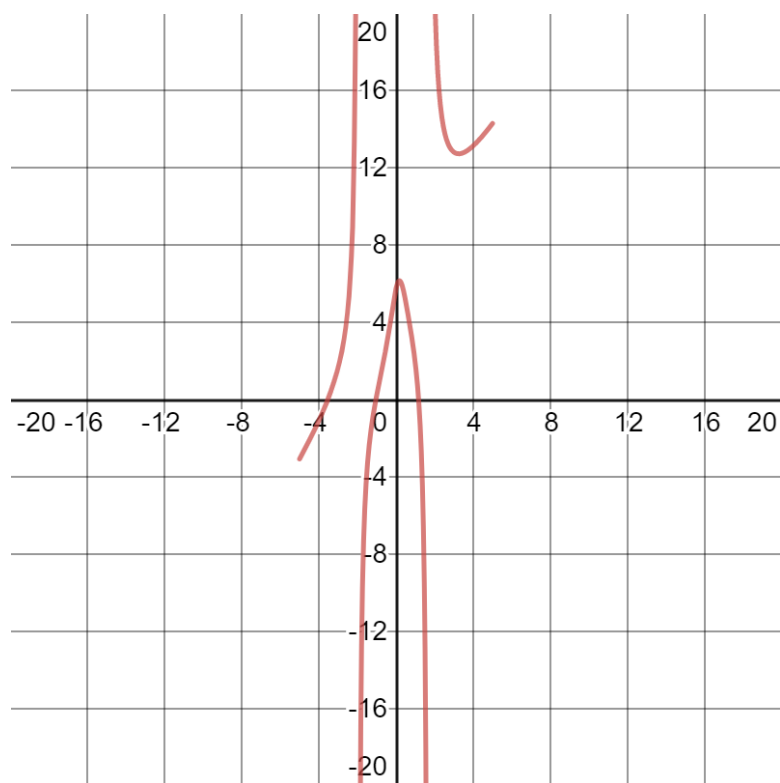
4.

$$\frac{x^4 - 5x^3 + x^2 - 2}{-x^3 + 2x^2 - 5}$$



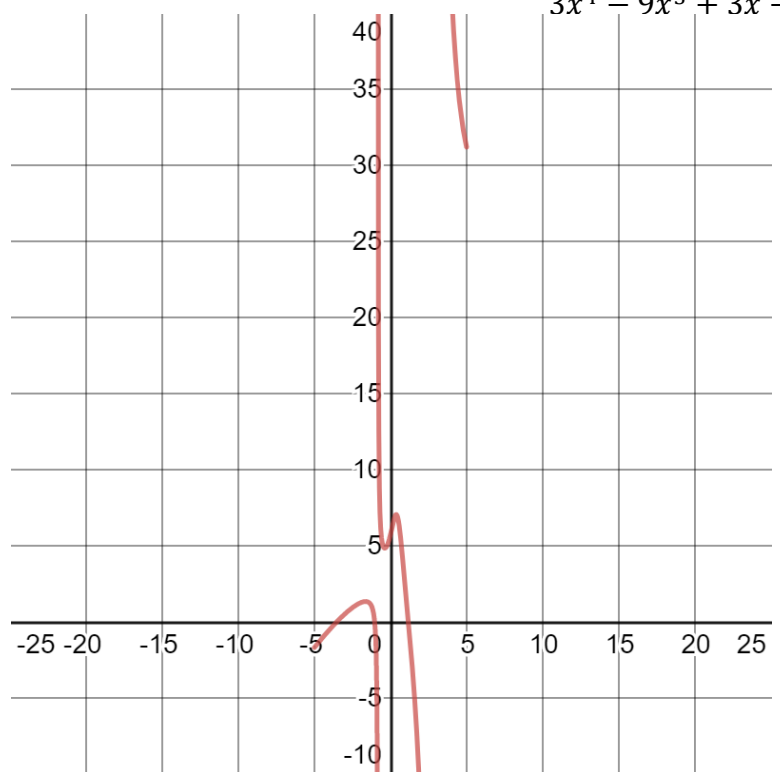
5.

$$\frac{5x^5 + 15x^4 - 10x^3 - 23}{3x^4 - 9x^2 + 3x - 4}$$



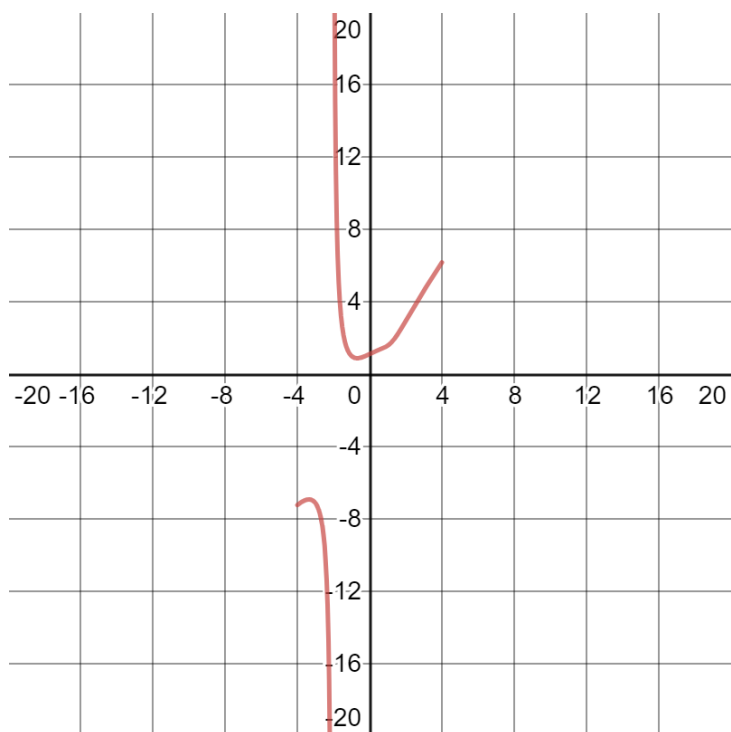
6.

$$\frac{5x^5 + 15x^4 - 10x^3 - 23}{3x^4 - 9x^3 + 3x - 4}$$



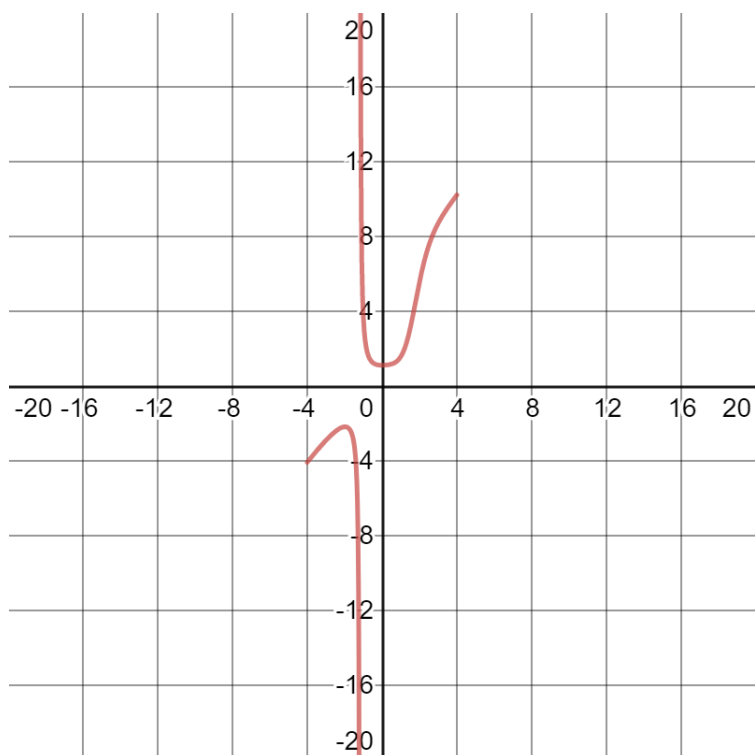
7.

$$\frac{3x^4 - 2x^2 + 10}{2x^3 - 4x + 9}$$



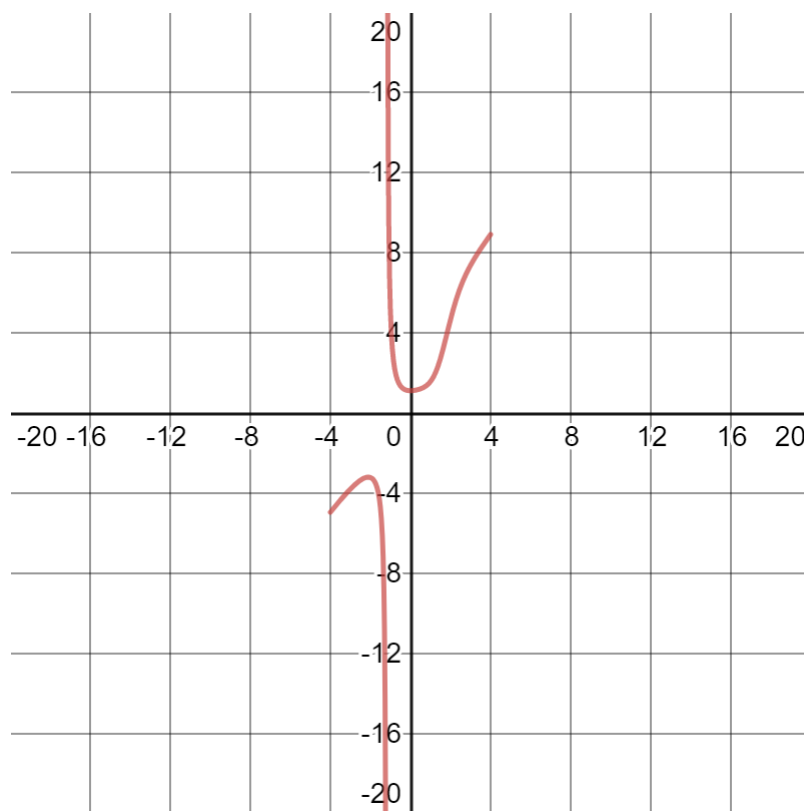
8.

$$\frac{3x^4 - 2x^2 + 10}{2x^3 - 4x^2 + 9}$$



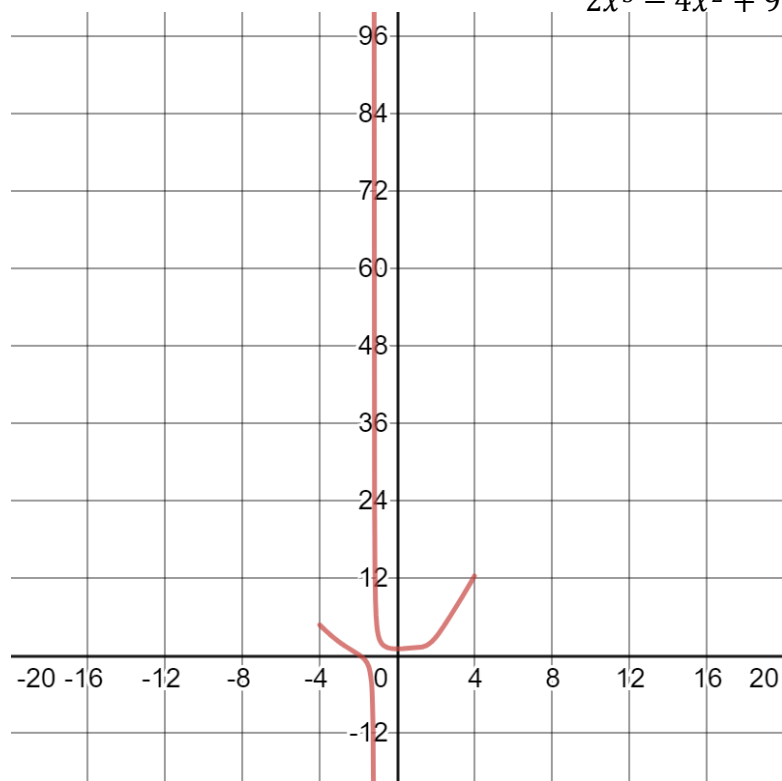
9.

$$\frac{3x^4 - 2x^3 + 10}{2x^3 - 4x^2 + 9}$$



10.

$$\frac{x^5 - 2x^3 + 10}{2x^3 - 4x^2 + 9}$$



11. Consider f given below. Determine $f(6 \times 10^{23})$ to the nearest whole number.

$$f(x) = \frac{3x^5 - 12x^3 + 13}{6x^4 - 48x^3 + 20}$$

Solutions:

1. $y = 2$
2. $y = -20$
3. $y = -x + 5$
4. $y = -x + 3$
5. $y = \frac{5}{3}x + 5$
6. $y = \frac{5}{3}x + 10$
7. $y = \frac{3}{2}x$
8. $y = \frac{3}{2}x + 3$
9. $y = \frac{3}{2}x + 2$
10. $y = \frac{1}{2}x^2 + x + 1$
11. $3 \times 10^{23} + 4$ or 300 000 000 000 000 000 000 004