MODULE 3 LESSON 4 QUIZ

1. Question. Which of the following rational functions is negative on the set

 $(-\infty, -3) \cup (-1, 1)?$ A. $f(x) = \frac{x+3}{1-x^2}$ B. $f(x) = \frac{x^2+x-6}{x^2-1}$ C. $f(x) = \frac{x^2+2x-3}{x^2+3x+2}$ D. $f(x) = \frac{x^3+4x^2+x-6}{x^2+3x+2}$ Go to answer 1

2. Question. On which of the following sets is the rational function

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

positive?

A. only $(-\infty, -3)$ and $(1, \infty)$ B. only (-3, -2), (-2, -1) and $(1, \infty)$ C. only (-2, -1) and $(1, \infty)$ D. only (-3, -2) and $(1, \infty)$ Go to answer 2 3. Question. In which of the following intervals of its domain does

$$f(x) = \frac{x+3}{x^2 + x - 12}$$

approach the negative infinity (i.e. $\lim_{x\to a} f(x) = -\infty$ for some a in the interval)?

- A. only (-3, 3)
 B. only (-4, -3)
 C. (-∞, -4) and (-3, 3)
- D. (-4, -3) and $(3, \infty)$

Go to answer 3

4. Question. Which of the following is the oblique asymptote of the rational function $m^{3} + 4m^{2} + m = 6$

$$f(x) = \frac{x^3 + 4x^2 + x - 6}{x^2 + 3x + 2}?$$

A. y = x + 1B. y = x + 3C. y = x - 1D. y = x

Go to answer 4

- 5. Question. For which of the following rational functions the line y = 2x + 1 is an oblique asymptote and the line x = 2 is a vertical asymptote?
 - A. $f(x) = \frac{2x^2 4x + 5}{x 2}$ B. $f(x) = \frac{2x^2 - 3x + 3}{x^2 - 1}$ C. $f(x) = \frac{2x^2 - 3x + 3}{x - 2}$

D.
$$f(x) = \frac{2x+1}{x-2}$$

Go to answer 5

ANSWERS

- Answer to Question 1 is "D".
 Go back 1
- Answer to Question 2 is "B".
 Go back 2
- Answer to Question 3 is "C".
 Go back 3
- Answer to Question 4 is "A".
 Go back 4
- Answer to Question 5 is "C".
 Go back 5