Math 1330
Homework 6 (2.3)

Problem 2.3.20 refers to problem 20 in Chapter 2, Section 3 in the online text. Record your
answers to all the problems in the EMCF titled "**Homework 6**."

1.   Problem 2.3.20 b e

   A.   Hole: $\left(-3, -\dfrac{9}{5}\right)$ Vertical Asymptote: $x = 2$

   B.   Hole: $(2,0)$ Vertical Asymptote: $x = -3$

   C.   Hole: $(6,0)$ Vertical Asymptote: $x = 2$ and $x = -3$

   D.   None of the above

2.   Problem 2.3.22 b c

   A.   There are no holes. x-intercepts at $x = -2$ and $x = 5$

   B.   Hole: $(-2, 0)$ x-intercept at $x = 5$

   C.   Hole: $(5, 7)$ x-intercept at $x = -2$

   D.   None of the above

3.   Problem 2.3.26 c f

   A.   There are no x-intercepts.   Horizontal Asymptote: none

   B. $(3, 0)$ and $\left(\dfrac{7}{5},0\right)$ Horizontal Asymptote: $y = 5$

   C. $\left(\dfrac{7}{5},0\right)$ Horizontal Asymptote: $y = -5$

   D. $\left(-\dfrac{7}{5},0\right)$ and $(-4, 0)$ Horizontal Asymptote: $y = -5$

   E.   None of the above

4.   Problem 2.3.28: Find any vertical asymptotes.

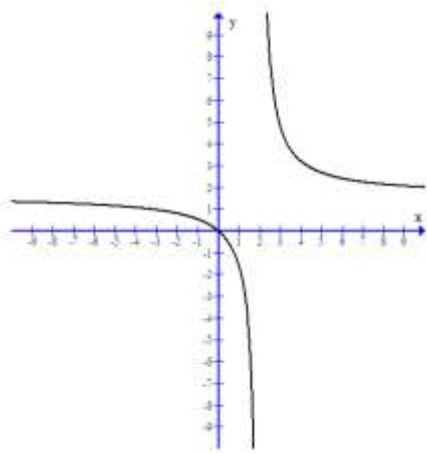A. $x = 2,\ x = -2$ B. $x = \dfrac{8}{5}$
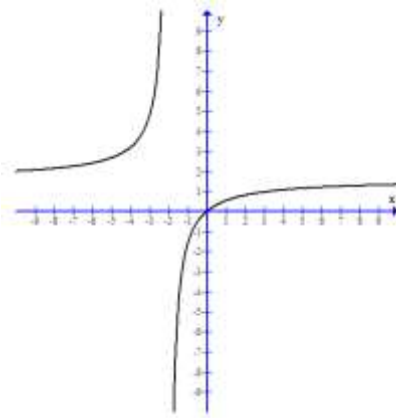
C. $x = 0$ D. $x = 2\,\text{only}$

E. $x = -2\,\text{only}$

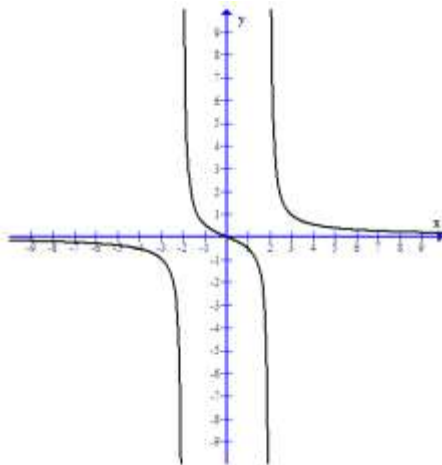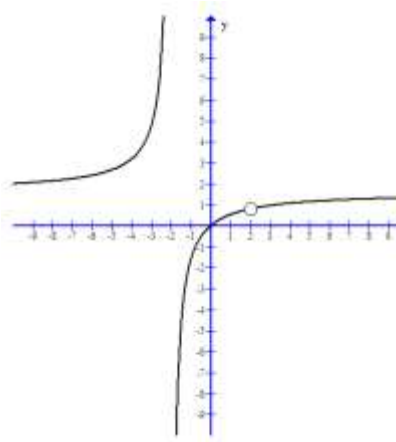5. Problem 2.3.28: Which of these could be the graph of the function?
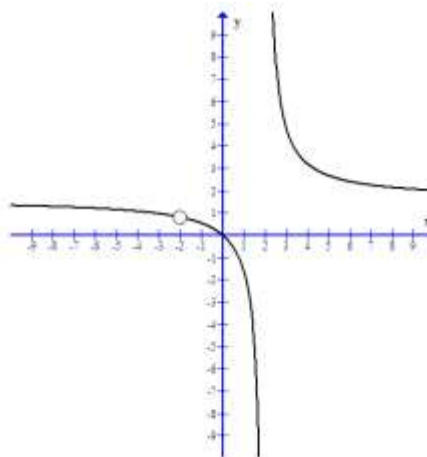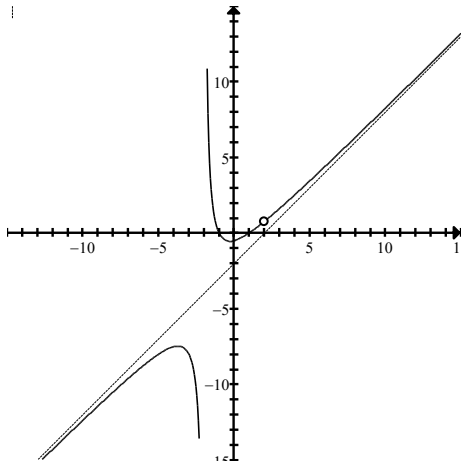
A.

B.

C.

D.

E.
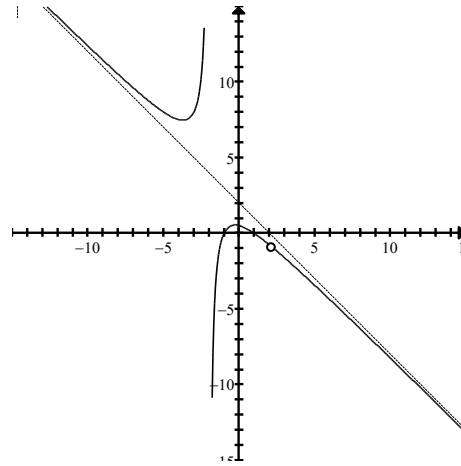
6. Problem 2.3.30 g h
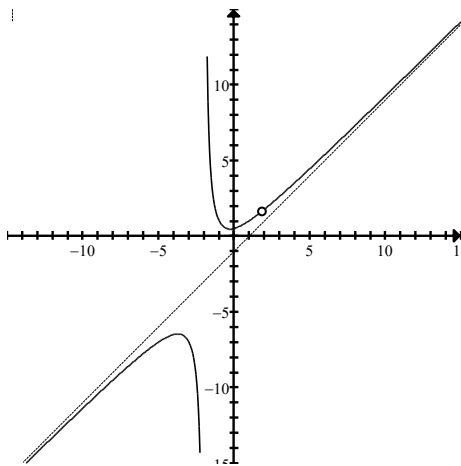
A. $y = x - 2$

B. $y = -x + 2$

C. $y = x - 1$

D. None of these

7.   Problem 2.3.32 a f

    A. $\left(-\infty, -3\right) \cup \left(-3, 2\right) \cup \left(2, \infty\right)$ Horizontal Asymptote: $y = 0$

    B. $\left(-\infty, -6\right) \cup \left(-6, 1\right) \cup \left(1, \infty\right)$ Horizontal Asymptote: $y = -12$

    C. $\left(-\infty, -2\right) \cup \left(-2, 3\right) \cup \left(3, \infty\right)$ Horizontal Asymptote: $y = 2$

    D.   None of the above

8.   Problem 2.3.36 c f

    A.   (0, 0)   Horizontal Asymptote: $y = 2$

    B.   (0, 0)   Horizontal Asymptote: $y = 0$

    C.   (0, 0) and (–5, 0)   Horizontal Asymptote: $y = 2$

    D.   None of the above

9.   Problem 2.3.44 c

    A.   (0, 2/7)

    B.   (-0.5, 0.6)

    C.   (–1, 1)

    D.   None of the above

10.   Problem 2.3.46 b

    A. $x = 0$

    B. $x = 3$

    C. $x = -1$

    D.   None of the above

For numbers 11 – 20, choose the correct graph for each function.

11. $f(x) = \dfrac{(x-2)(x+3)}{(x-1)^2}$

12. $f(x) = \dfrac{(x-2)^2(x+3)}{(x-1)}$

13. $f(x) = \dfrac{(x-1)(x-2)(x+3)}{(x-1)}$

14. $f(x) = \dfrac{(x-2)(x+3)}{(x-1)}$

15. $f(x) = \dfrac{(x-1)^2(x-2)(x+3)}{(x-1)}$

A.

B.

C.

D.

E.

F.