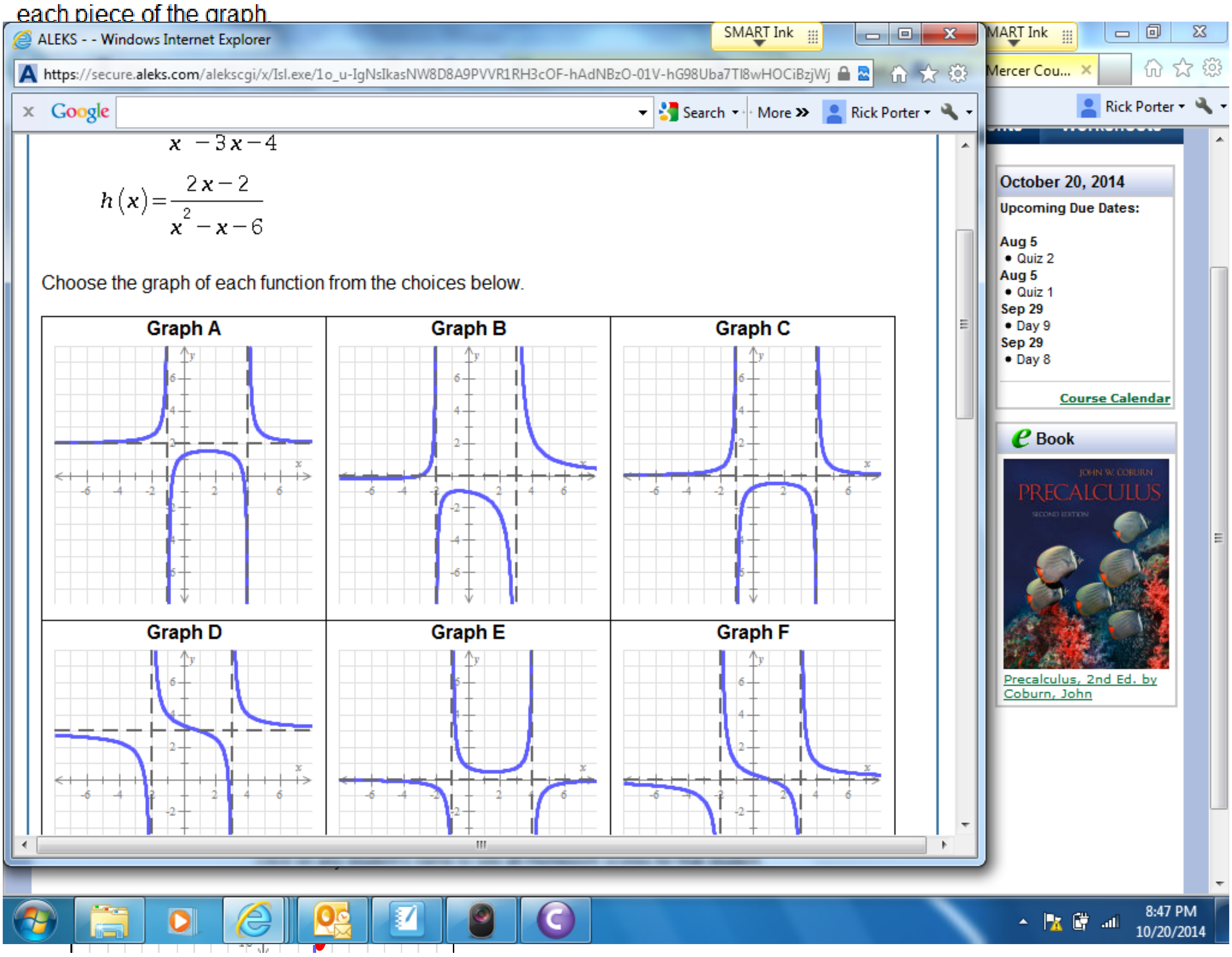
2. Graphing a rational function: Problem type 1

Graph the rational function $f(x)=\dfrac{2}{-x+3}$.

To graph the function, draw the horizontal and vertical asymptotes (if any) and plot at least two points on each piece of the graph.

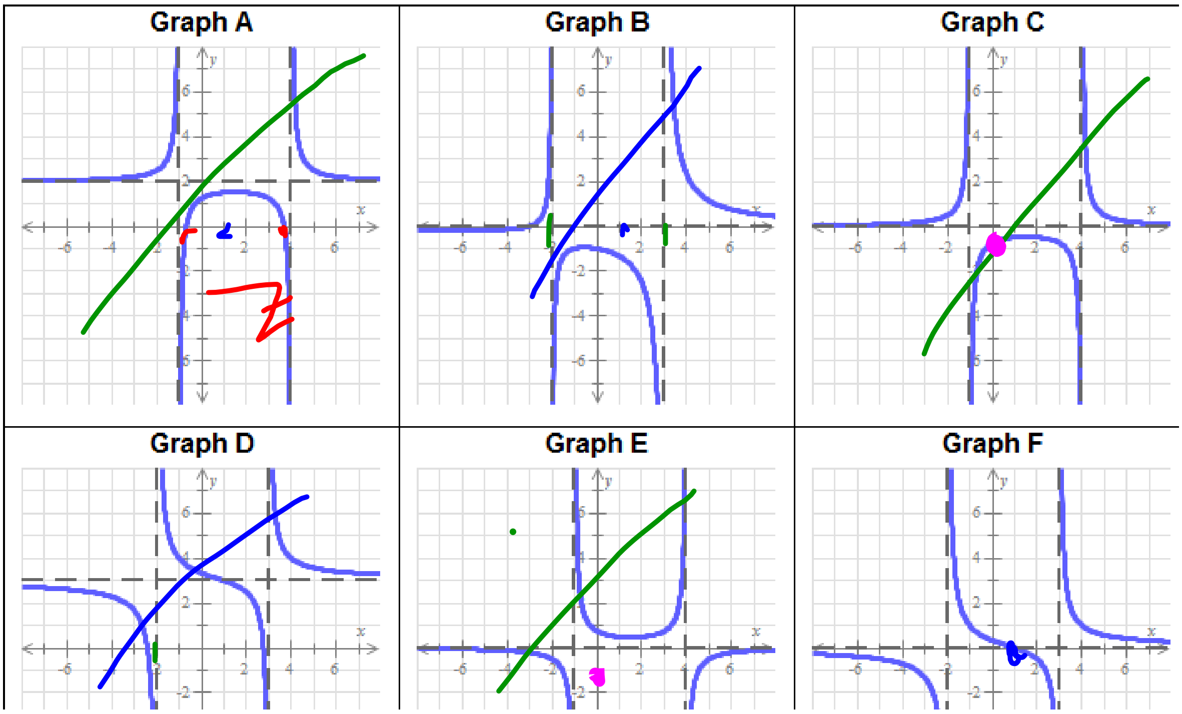


(4,0)

$$h(x)=\frac{2x-2}{x^2-x-6} = \frac{0x^2+2x-2}{x^2-x-6} = 0 \quad \text{HA: } y=0$$

$(x-3)(x+2)$

Choose the graph of each function from the choices below.



$$g(x)=\frac{3}{x^2-3x-4}$$

HA: Y=0

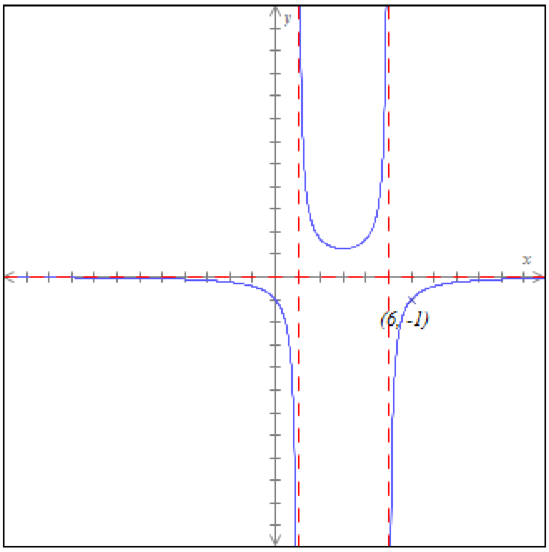
zero: none

VA: (x-4)(x+1)=0, 4, -1

try x=0, y=3/-4

A, C, E all possible

so the answer is C



- $f(x) = \frac{a}{x-b}$
- $f(x) = \frac{a(x-b)}{x-c}$
- $f(x) = \frac{a}{(x-b)(x-c)}$
- $f(x) = \frac{a(x-b)}{(x-c)(x-d)}$
- $f(x) = \frac{a(x-b)(x-c)}{(x-d)(x-e)}$

$$y = \frac{a}{(x-1)(x-5)}$$

plug in x=6

and y=-1

$$-1 = \frac{a}{(6-1)(6-5)}$$

so a=-5

$$\boxed{y = \frac{-5}{(x-1)(x-5)}}$$

7. Solving a rational inequality: Problem type 1

Solve the following inequality.

$$\frac{x-6}{x+4} \geq 0$$

Write your answer using interval notation.

You answered:

Please fill in all the empty boxes before clicking on "Next"...

The correct answer is:

$$(-\infty, -4) \cup [6, \infty)$$