

Grading 9.3 - turn in to basket

12. VA: $x = -2$

HA: $y = 0$

d: ARN $\neq -2$

r: ARN $\neq 0$

18. VA: $x = 7$

HA: $y = -8$

d: ARN $\neq 7$

r: ARN $\neq -8$

26. VA: $x = 0$

HA: $y = 0$

d: ARN $\neq 0$

r: ARN $\neq 0$

15. VA: $x = 0$

HA: $y = 3$

d: ARN $\neq 0$

r: ARN $\neq 3$

21. VA: $x = -4$

HA: $y = -2$

d: ARN $\neq -4$

r: ARN $\neq -2$

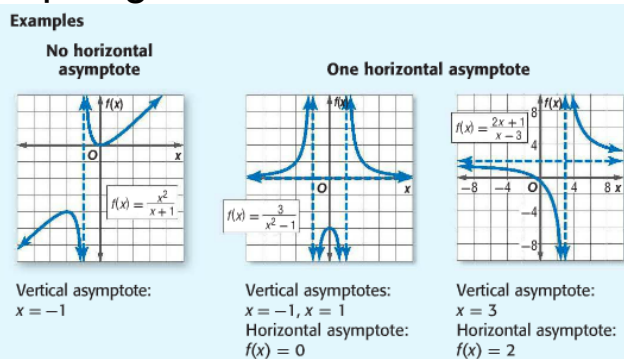
28. VA: $x = -3/2$

HA: $y = 0$

d: ARN $\neq -3/2$

r: ARN $\neq 0$

9-4 Graphing Rational Functions



$$f(x) = \frac{x^2}{x+1}$$

$$f(x) = \frac{3}{x^2-1}$$

$$f(x) = \frac{2x+1}{x-3} \quad y=2$$

HA: **BOBO BOTN EATS DC**

bigger on bottom $y=0$

bigger on top none

exponents are the same divide coefficients

What are the vertical and horizontal asymptotes?

1A. $f(x) = \frac{x^2 - x - 6}{x + 1}$

VA: $x = -1$
 HA: none

$$\frac{(x-3)(x+2)}{x+1}$$

13. $f(x) = \frac{x}{x+2}$

VA: $x = -2$
 HA: $y = 1$

18. $f(x) = \frac{2x}{(x+2)(x-5)}$ x^2

VA: $x = -2$ $x = 5$
 HA: $y = 0$

BOBO BOTN EATS DC

$y=0$ none

Key Concept

Point Discontinuity

For Your FOLDABLE

Words If $f(x) = \frac{a(x)}{b(x)}$, $b(x) \neq 0$, and $x - c$ is a factor of both $a(x)$ and $b(x)$, then there is a point discontinuity at $x = c$.

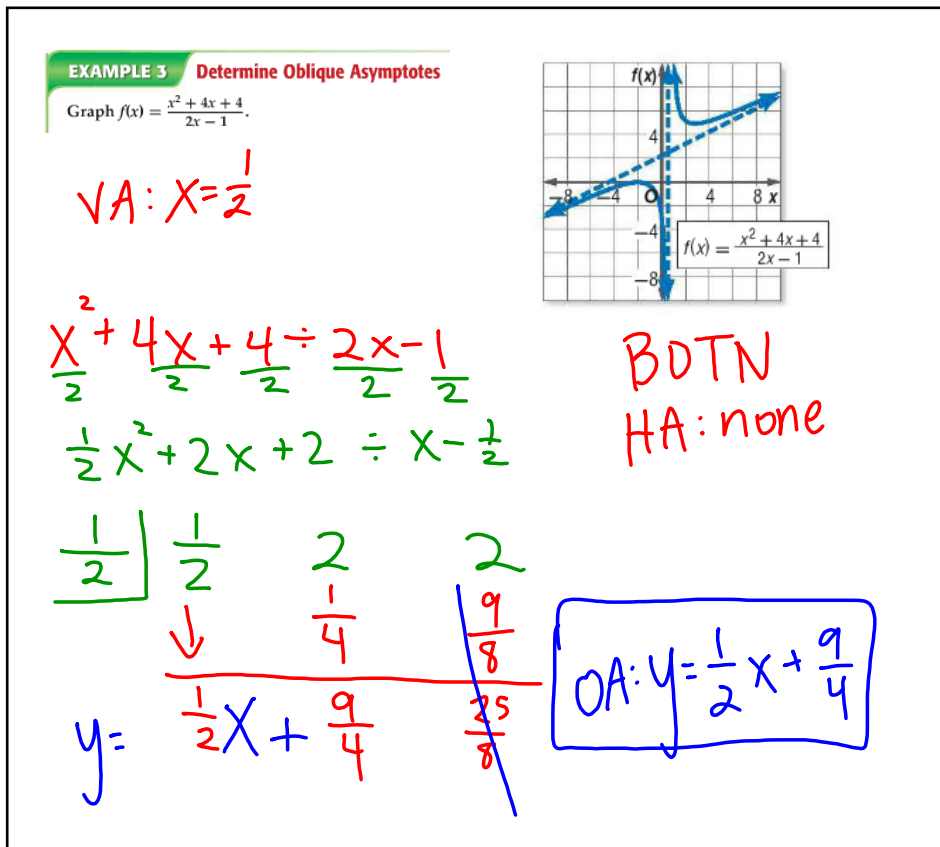
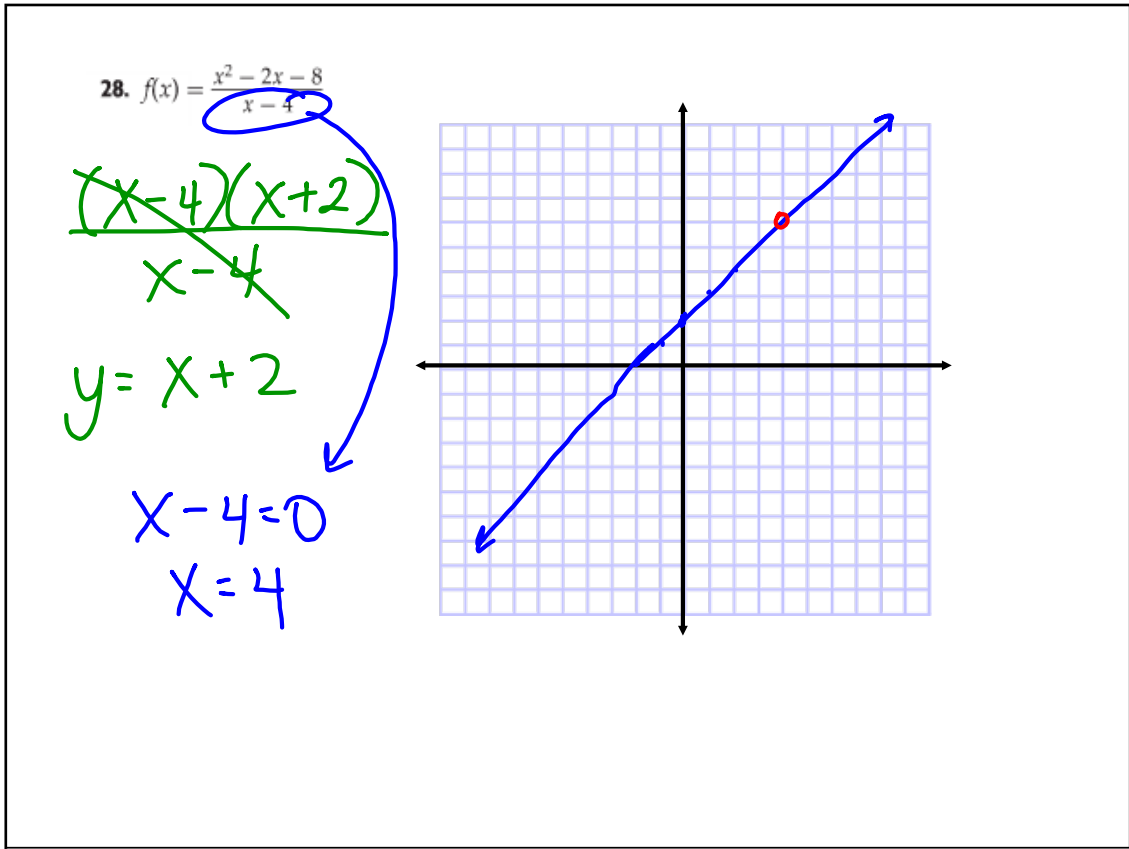
Example $f(x) = \frac{(x+2)(x+1)}{x+1}$
 $= x + 2; x \neq -1$

Math in Motion, Interactive Lab glencoe.com

$$f(x) = \frac{x^2 + 3x + 2}{x+1} \quad x \neq -1$$

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

$$f(x) = x + 2$$



Find the vertical and oblique asymptotes.

$$3A. f(x) = \frac{x^2}{x-2}$$

$$VA: x=2$$

$$OA: x^2 + 0x + 0 \div x - 2$$

$$\begin{array}{r} 2 \overline{) 1 \quad 0 \quad 0} \\ \underline{ 2 \quad 4} \\ 1 \quad 2 \quad \cancel{4} \end{array}$$

OA: $y = x + 2$

BOBO BOTN EATS DC

Assignment

9-4 Graphing Rational Functions

pg. 582 #14-20even, 24, 28, 30

Ignore book directions and find...

#14, 16, 18 - VA/HA

#20, 24 - VA/OA Use synthetic division

#28, 30 - Graph and find point of discontinuity