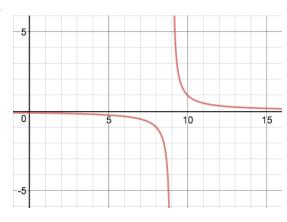
# Determine the domain, range, end behavior and vertical and horizontal asymptotes of each rational function.

1.



Domain:

Range:

End Behavior:

as 
$$x \rightarrow \infty$$
,  $y \rightarrow$ \_\_\_\_

as 
$$x \rightarrow -\infty$$
,  $y \rightarrow _{---}$ 

Asymptotic Behavior:

as 
$$x \rightarrow 9^+, y \rightarrow \underline{\hspace{1cm}}$$

Vertical Asymptote:

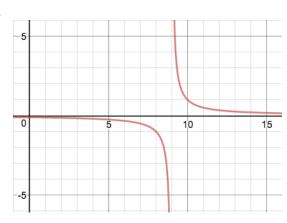
Horizontal Asymptote:

Progress Check: Key Features of Rational Functions (E1-E3)

Name \_\_\_\_\_

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1.



Domain:

Range:

End Behavior:

as 
$$x \rightarrow \infty$$
,  $y \rightarrow _{---}$ 

as 
$$x \rightarrow -\infty$$
,  $y \rightarrow _{---}$ 

Asymptotic Behavior:

as 
$$x \rightarrow 9^-, y \rightarrow \underline{\hspace{1cm}}$$

as 
$$x \rightarrow 9^+$$
,  $y \rightarrow _{---}$ 

Vertical Asymptote:

Horizontal Asymptote:

$$f(x) = \frac{3}{x}$$

#### Domain:

## Range:

## Vertical Asymptote:

## Horizontal Asymptote:

## End Behavior:

as 
$$x \rightarrow -\infty$$
,  $y \rightarrow _{---}$ 

#### Asymptotic Behavior:

as 
$$x \rightarrow \_\_\_$$
,  $y \rightarrow \_\_\_$ 

as 
$$x \rightarrow$$
\_\_\_\_,  $y \rightarrow$ \_\_\_\_

$$f(x) = \frac{3}{x}$$

#### Range:

## Vertical Asymptote:

#### **Horizontal Asymptote:**

#### End Behavior:

as 
$$x \rightarrow -\infty$$
,  $y \rightarrow _{---}$ 

#### Asymptotic Behavior:

as 
$$x \rightarrow$$
\_\_\_\_,  $y \rightarrow$ \_\_\_\_

as 
$$x \rightarrow$$
\_\_\_\_,  $y \rightarrow$ \_\_\_\_