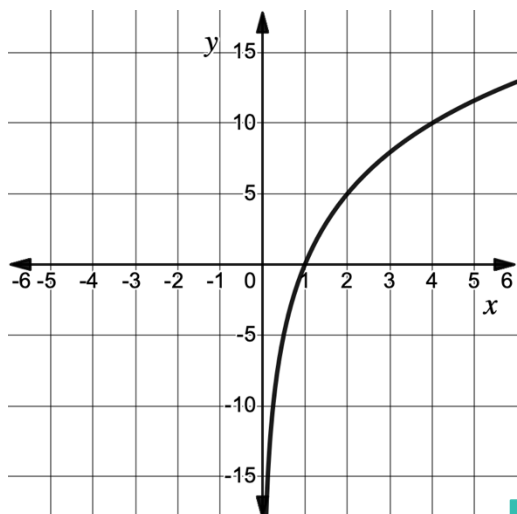
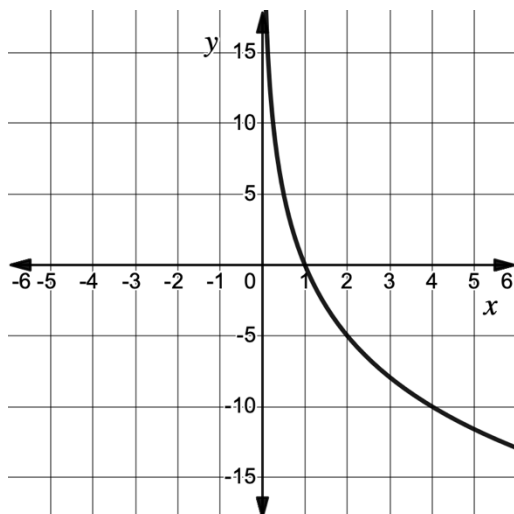


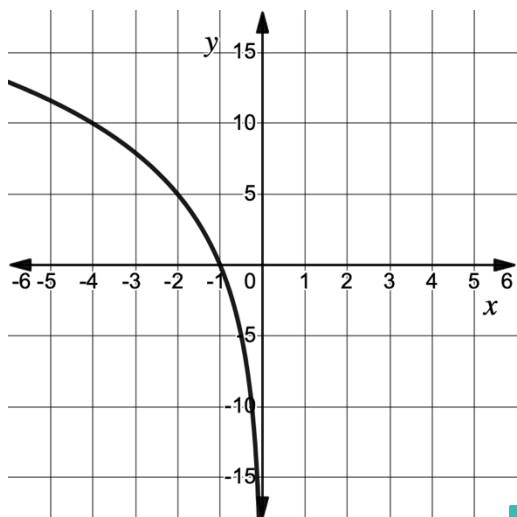
A.



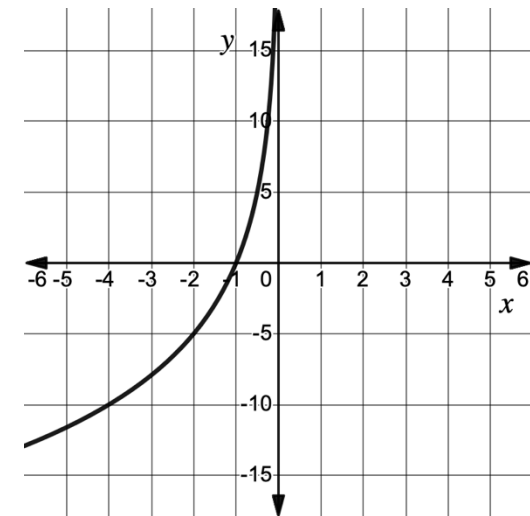
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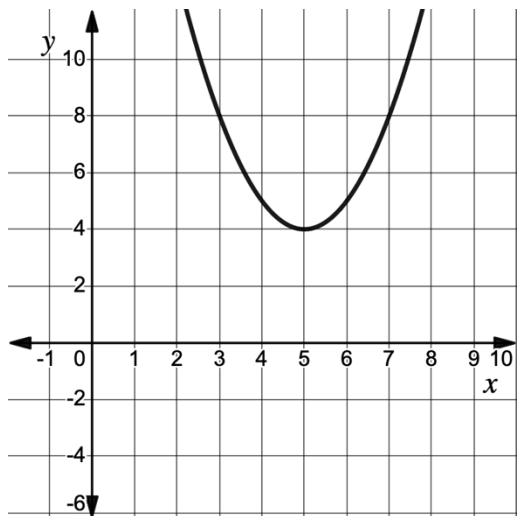
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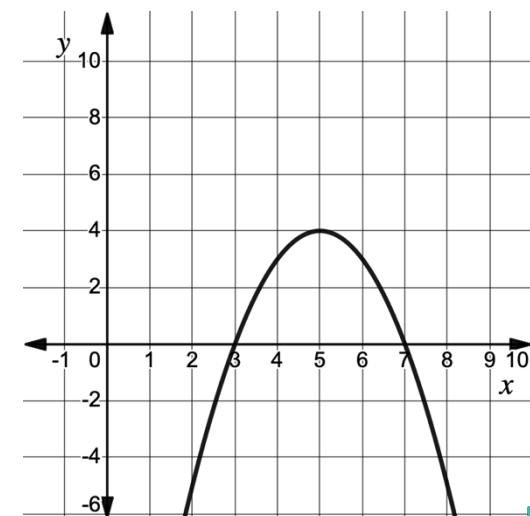
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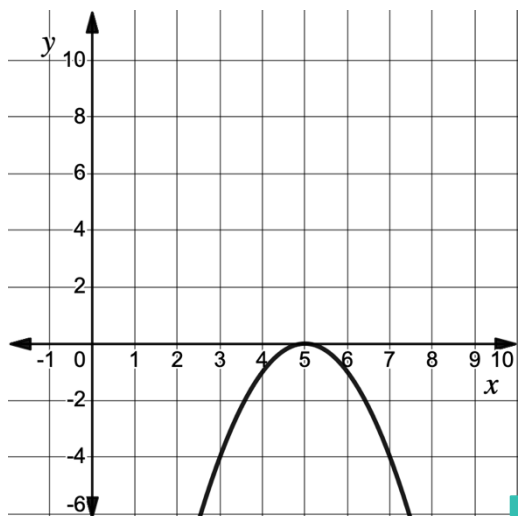
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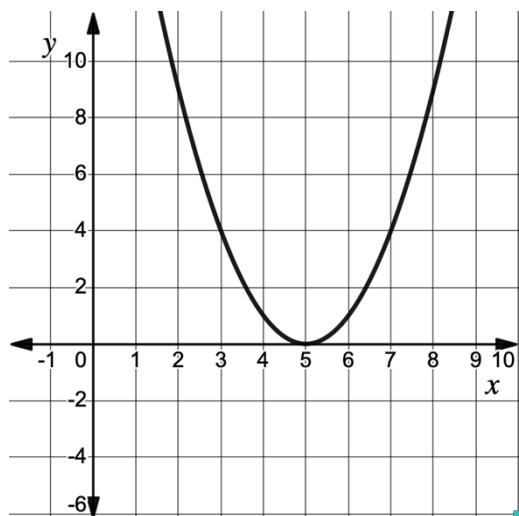
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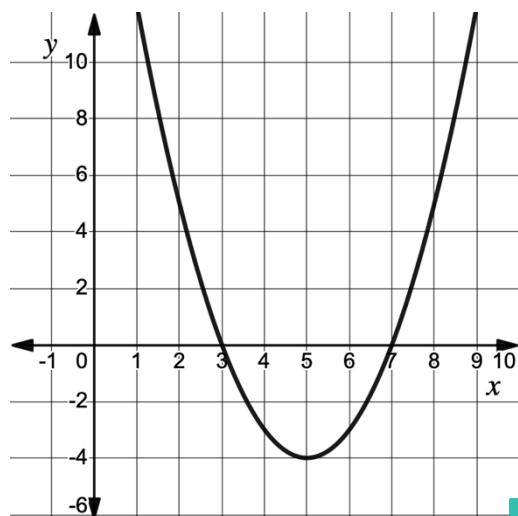
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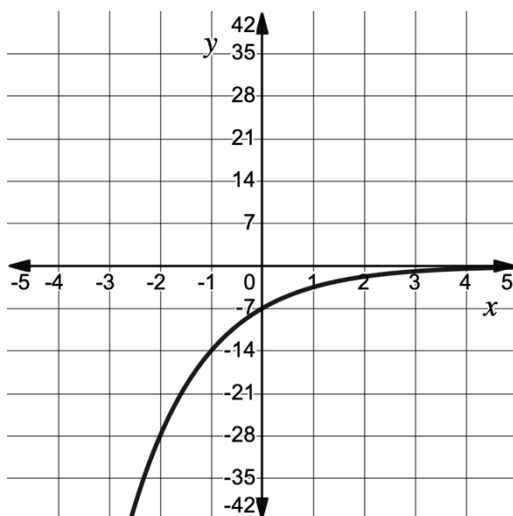
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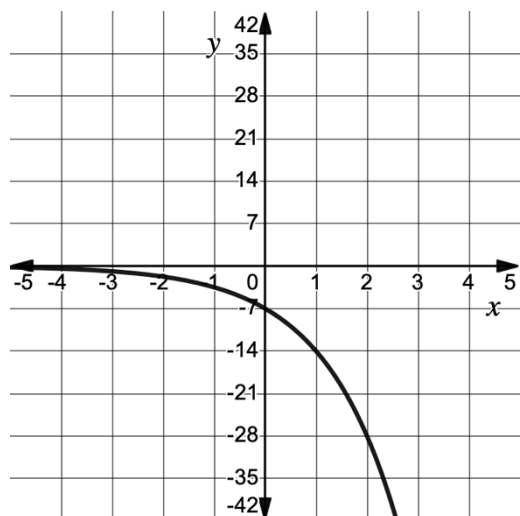
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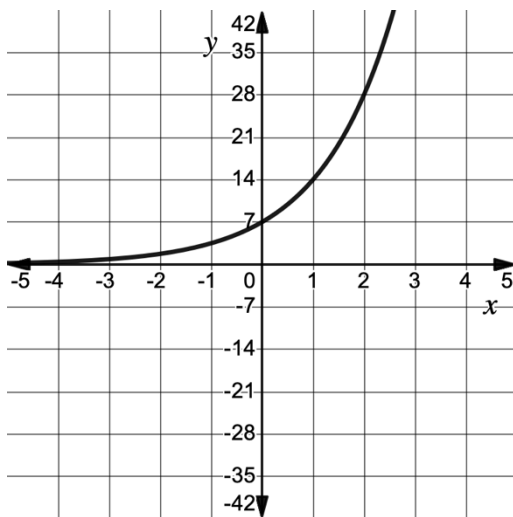
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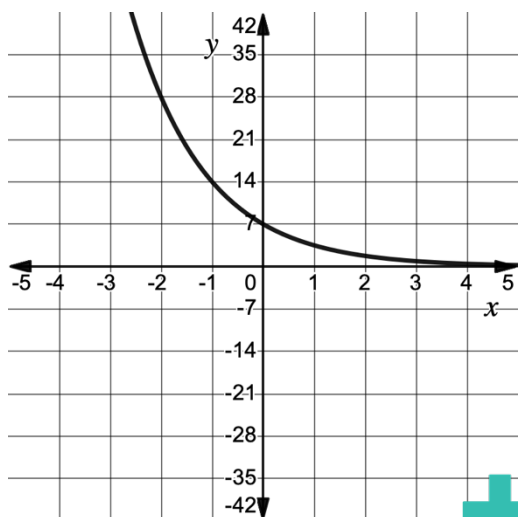
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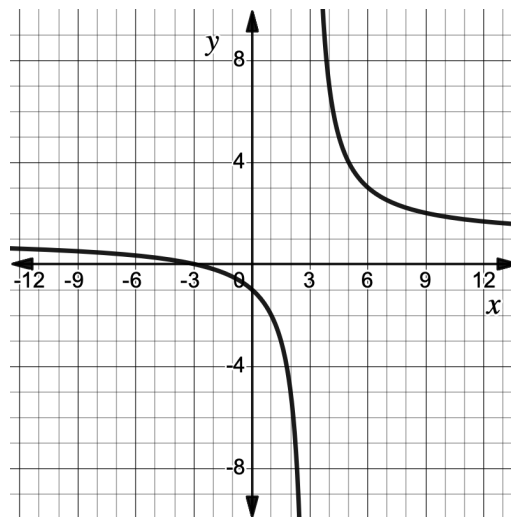
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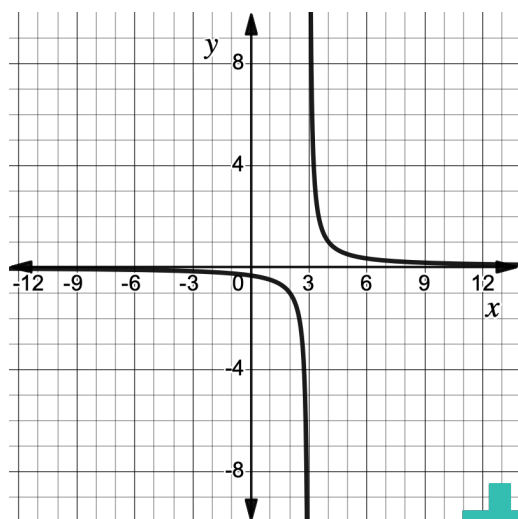
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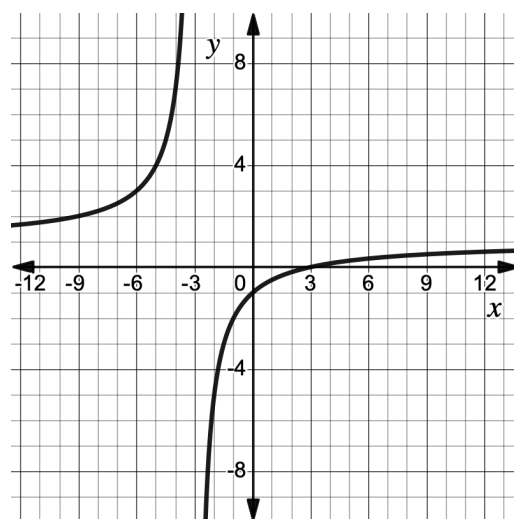
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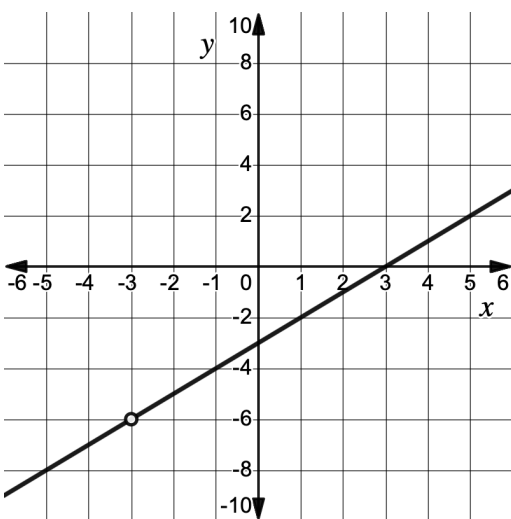
O



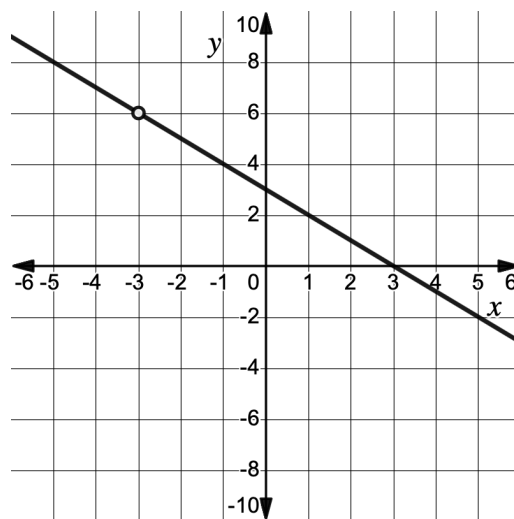
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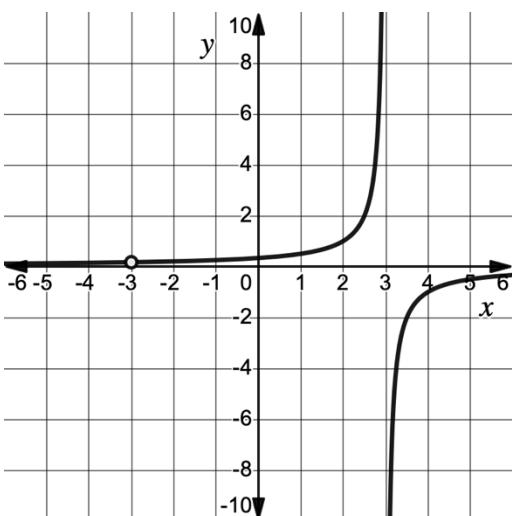
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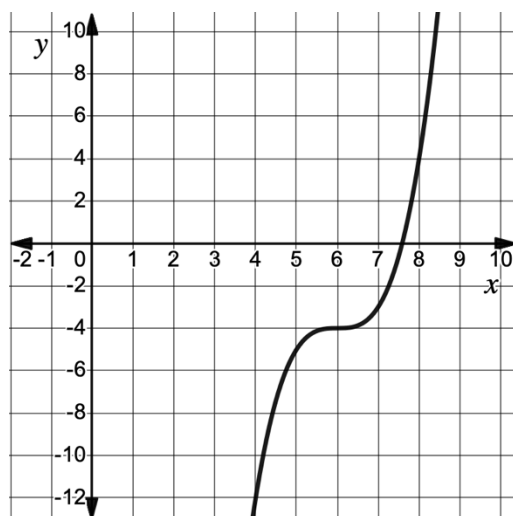
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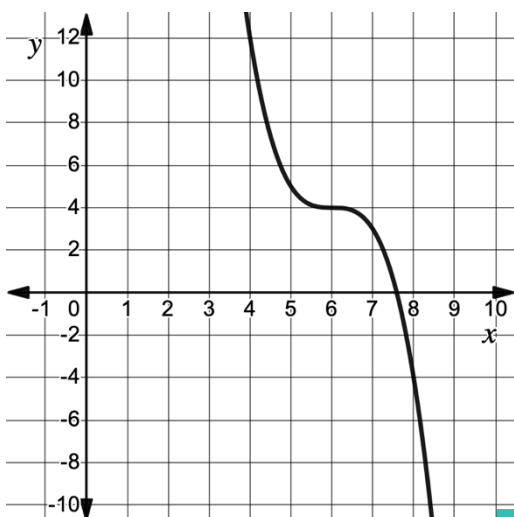
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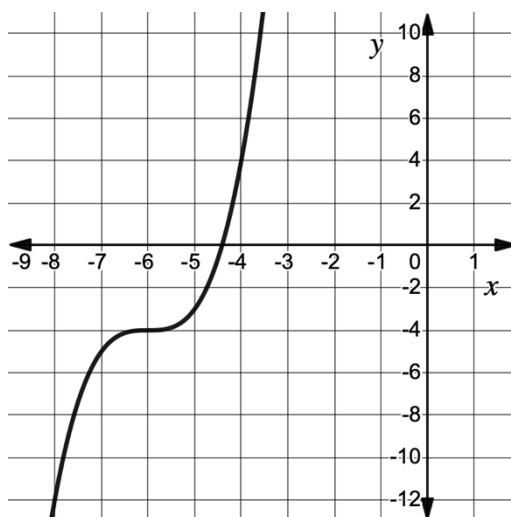
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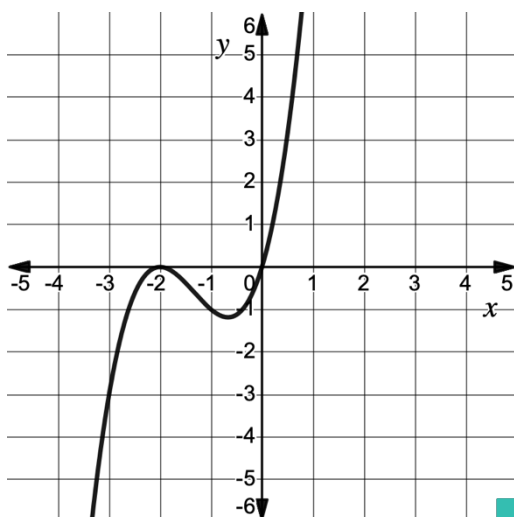
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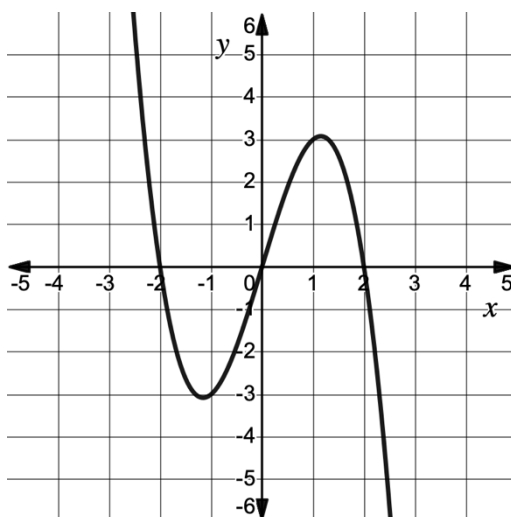
V



W



X



1

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



2

$$f(x) = (x-5)^2 + 4$$



3

$$f(x) = (x-3)(x-7)$$



4

$$f(x) = -(x-6)^3 + 4$$



5

$$f(x) = -7\left(\frac{1}{2}\right)^x$$



6

$$f(x) = 5 \log_2 x$$



7

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



8

$$f(x) = 7 \cdot 2^x$$



9

$$f(x) = -x^2 + 10x - 25$$



10

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



11

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



12

$$f(x) = 5 \log_{0.5}(-x)$$



13

$$f(x) = (x - 6)^3 - 4$$



14

$$f(x) = x^2 - 10x + 25$$



15

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



16

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



17

$$f(x) = -7 \cdot 2^x$$



18

$$f(x) = 5 \log_2(-x)$$



19

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



20

$$f(x) = 7 \left(\frac{1}{2} \right)^x$$



21

$$f(x) = -[(x-5)^2 - 4]$$



22

$$f(x) = (x+6)^3 - 4$$



23

$$f(x) = 5 \log_{0.5} x$$



24

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



a As inputs increase additively by 1, outputs double. $f(0) < 0$ 	b Constant positive change in the average rates of change over consecutive equal-length input intervals and relative minimum of 4 
c Constant positive third differences over equal-length input intervals and two distinct zeros 	d Vertical asymptote at $x = 3$, horizontal asymptote at $y = 1$, x-intercept of $x = -3$ 
e Constant positive third differences over equal-length input intervals and inflection point at $x = -6$ 	f For $x > 0$, as inputs double, outputs increase additively by 5. 

g

As inputs increase additively
by 1, outputs halve.

$$f(0) < 0$$



h

As inputs increase additively
by 1, outputs double.

$$f(0) > 0$$



i

Vertical asymptote at $x = 3$,
horizontal asymptote at $y = 0$,
hole at $x = -3$



j

Vertical asymptote at $x = 3$,
horizontal asymptote at $y = 0$



k

Constant negative change in
the average rates of change
over consecutive equal-length
input intervals and relative
maximum of 4



l

Constant negative third
differences over equal-length
input intervals and three
distinct zeros



m For $x > 0$, as inputs double, outputs decrease additively by 5. 	n Constant positive change in the average rate of change over consecutive equal-length input intervals and relative minimum of -4 
o Constant negative third differences over equal-length input intervals and inflection point at $x = 6$ 	p Constant negative change in the average rates of change over consecutive equal-length input intervals and relative maximum of 0 
q Vertical asymptote at $x = -3$, horizontal asymptote at $y = 1$, x-intercept of $x = 3$ 	r For $x < 0$, as inputs halve, outputs decrease additively by 5. 

s Constant positive change in the average rates of change over consecutive equal-length input intervals and relative minimum of 0 	t Constant positive third differences over equal-length input intervals and inflection point at $x = 6$ 
u Hole at $(-3, -6)$, x-intercept of $x = 3$ 	v For $x < 0$, as inputs halve, outputs increase additively by 5. 
w As inputs increase additively by 1, outputs halve. $f(0) > 0$ 	x Hole at $(-3, 6)$, x-intercept of $x = 3$ 

*

$$\lim_{x \rightarrow -\infty} f(x) = -\infty$$

$$\lim_{x \rightarrow \infty} f(x) = 0$$



~

$$\lim_{x \rightarrow \infty} f(x) = \infty$$

$$\lim_{x \rightarrow -\infty} f(x) = -\infty$$



#

$$\lim_{x \rightarrow 3^-} f(x) = -\infty$$

$$\lim_{x \rightarrow 3^+} f(x) = \infty$$

$$\lim_{x \rightarrow -\infty} f(x) = 1$$

$$\lim_{x \rightarrow \infty} f(x) = 1$$



\$

$$\lim_{x \rightarrow 0^+} f(x) = \infty$$

$$\lim_{x \rightarrow \infty} f(x) = -\infty$$



@

$$\lim_{x \rightarrow \infty} f(x) = -\infty$$

$$\lim_{x \rightarrow -\infty} f(x) = \infty$$



^

$$\lim_{x \rightarrow \infty} f(x) = -\infty$$

$$\lim_{x \rightarrow -\infty} f(x) = -\infty$$



=

$$\lim_{x \rightarrow \infty} f(x) = \infty$$

$$\lim_{x \rightarrow -\infty} f(x) = \infty$$



!

$$\lim_{x \rightarrow -\infty} f(x) = 0$$

$$\lim_{x \rightarrow \infty} f(x) = -\infty$$



&

$$\lim_{x \rightarrow -3^-} f(x) = -6$$

$$\lim_{x \rightarrow -3^+} f(x) = -6$$

$$\lim_{x \rightarrow -\infty} f(x) = -\infty$$

$$\lim_{x \rightarrow \infty} f(x) = \infty$$



+

$$\lim_{x \rightarrow 0^+} f(x) = -\infty$$

$$\lim_{x \rightarrow \infty} f(x) = \infty$$



%

$$\lim_{x \rightarrow -3^-} f(x) = \frac{1}{6}$$

$$\lim_{x \rightarrow -3^+} f(x) = \frac{1}{6}$$

$$\lim_{x \rightarrow 3^-} f(x) = \infty$$

$$\lim_{x \rightarrow 3^+} f(x) = -\infty$$



?

$$\lim_{x \rightarrow \infty} f(x) = \infty$$

$$\lim_{x \rightarrow -\infty} f(x) = -\infty$$



Σ

$$\lim_{x \rightarrow \infty} f(x) = \infty$$

$$\lim_{x \rightarrow -\infty} f(x) = -\infty$$

 $\textcircled{R}$

$$\lim_{x \rightarrow 3^-} f(x) = -\infty$$

$$\lim_{x \rightarrow 3^+} f(x) = \infty$$

$$\lim_{x \rightarrow -\infty} f(x) = 0$$

$$\lim_{x \rightarrow \infty} f(x) = 0$$

 $\forall$

$$\lim_{x \rightarrow -3^-} f(x) = 6$$

$$\lim_{x \rightarrow -3^+} f(x) = 6$$

$$\lim_{x \rightarrow -\infty} f(x) = \infty$$

$$\lim_{x \rightarrow \infty} f(x) = -\infty$$

 π

$$\lim_{x \rightarrow \infty} f(x) = \infty$$

$$\lim_{x \rightarrow -\infty} f(x) = \infty$$

 β

$$\lim_{x \rightarrow 0^-} f(x) = -\infty$$

$$\lim_{x \rightarrow -\infty} f(x) = \infty$$

 $\textcircled{C}$

$$\lim_{x \rightarrow -\infty} f(x) = 0$$

$$\lim_{x \rightarrow \infty} f(x) = \infty$$



Δ

$$\lim_{x \rightarrow \infty} f(x) = -\infty$$

$$\lim_{x \rightarrow -\infty} f(x) = -\infty$$

 Ω

$$\lim_{x \rightarrow \infty} f(x) = -\infty$$

$$\lim_{x \rightarrow -\infty} f(x) = \infty$$

 $\approx$

$$\lim_{x \rightarrow -\infty} f(x) = \infty$$

$$\lim_{x \rightarrow \infty} f(x) = 0$$

 $\int$

$$\lim_{x \rightarrow 0^-} f(x) = \infty$$

$$\lim_{x \rightarrow -\infty} f(x) = -\infty$$

 $\mathfrak{C}$

$$\lim_{x \rightarrow \infty} f(x) = \infty$$

$$\lim_{x \rightarrow -\infty} f(x) = \infty$$

 $\neq$

$$\lim_{x \rightarrow -3^-} f(x) = \infty$$

$$\lim_{x \rightarrow -3^+} f(x) = -\infty$$

$$\lim_{x \rightarrow -\infty} f(x) = 1$$

$$\lim_{x \rightarrow \infty} f(x) = 1$$

