

Practice edition

Reference sheet - customise the values on zumola.com

Exercise 1: $y = (x + 1) / (x - 2)$
 $y = (x + 1) / (x - 2)$



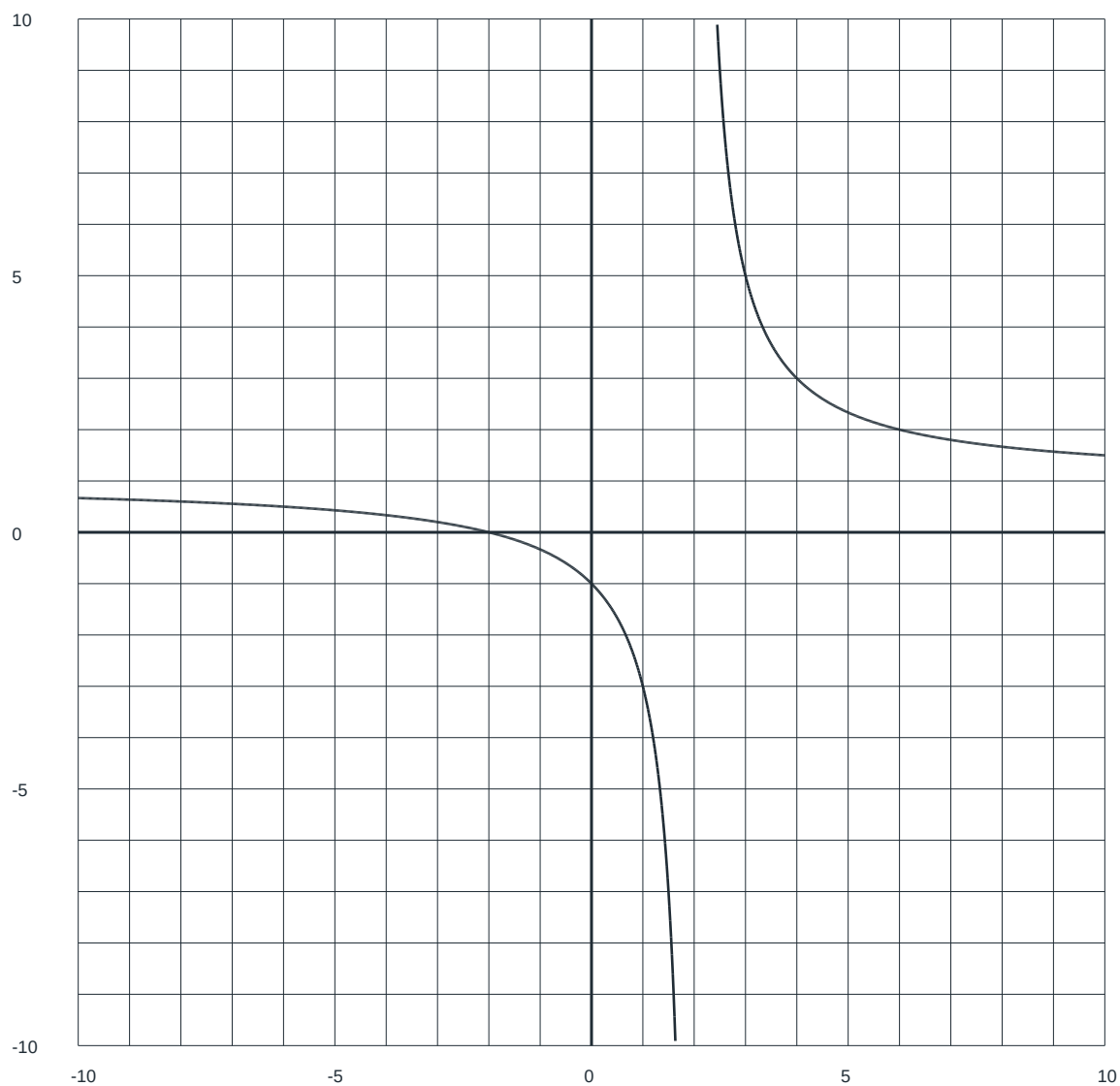
Domain: $x \neq 2$

Vertical asymptote $x=2$; horizontal asymptote $y=1$; zero $x=-1$. No hole.

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Exercise 2: $y = (x + 2) / (x - 2)$
 $y = (x + 2) / (x - 2)$



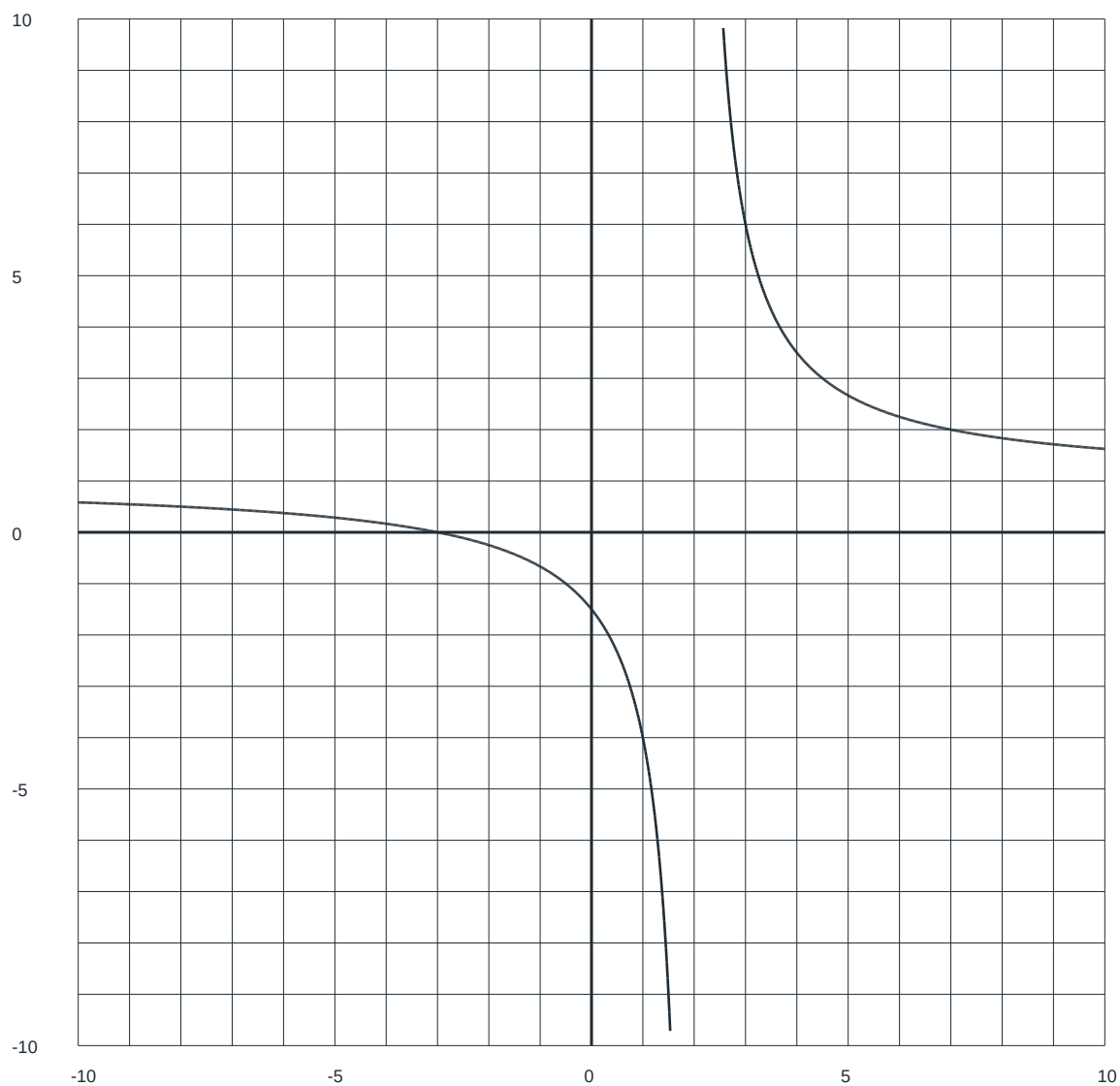
Domain: $x \neq 2$

Vertical asymptote $x=2$; horizontal asymptote $y=1$; zero $x=-2$. No hole.

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Exercise 3: $y = (x + 3) / (x - 2)$
 $y = (x + 3) / (x - 2)$



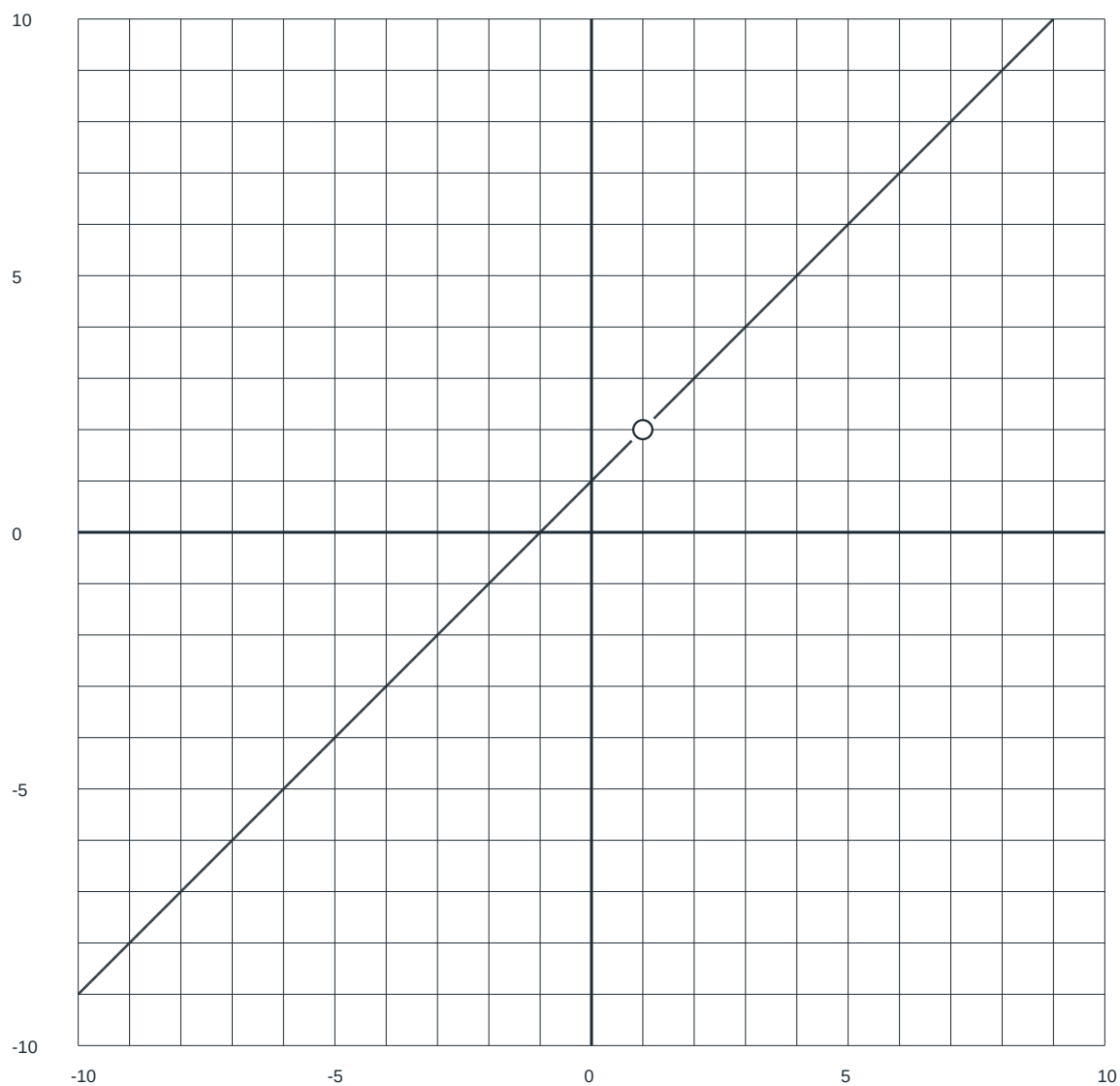
Domain: $x \neq 2$

Vertical asymptote $x=2$; horizontal asymptote $y=1$; zero $x=-3$. No hole.

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Exercise 4: $y = \frac{(x^2 - 1)}{(x - 1)}$
 $y = \frac{(x^2 - 1)}{(x - 1)}$



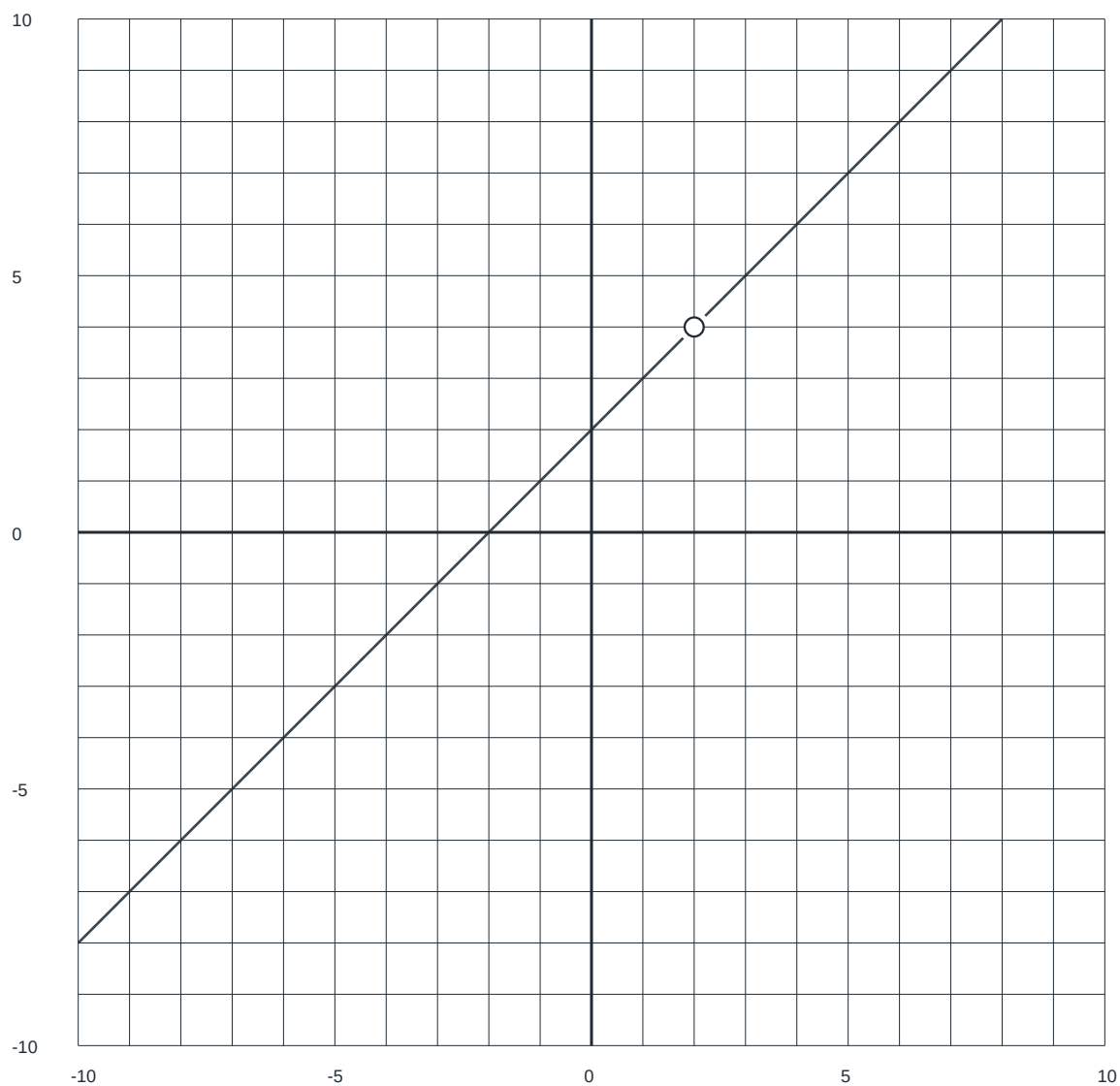
Domain: $x \neq 1$

Cancel $(x-1)$: $y=x+1$, but $x=1$ stays excluded. Hole $(1,2)$.

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Exercise 5: $y = (x^2 - 4) / (x - 2)$
 $y = (x^2 - 4) / (x - 2)$



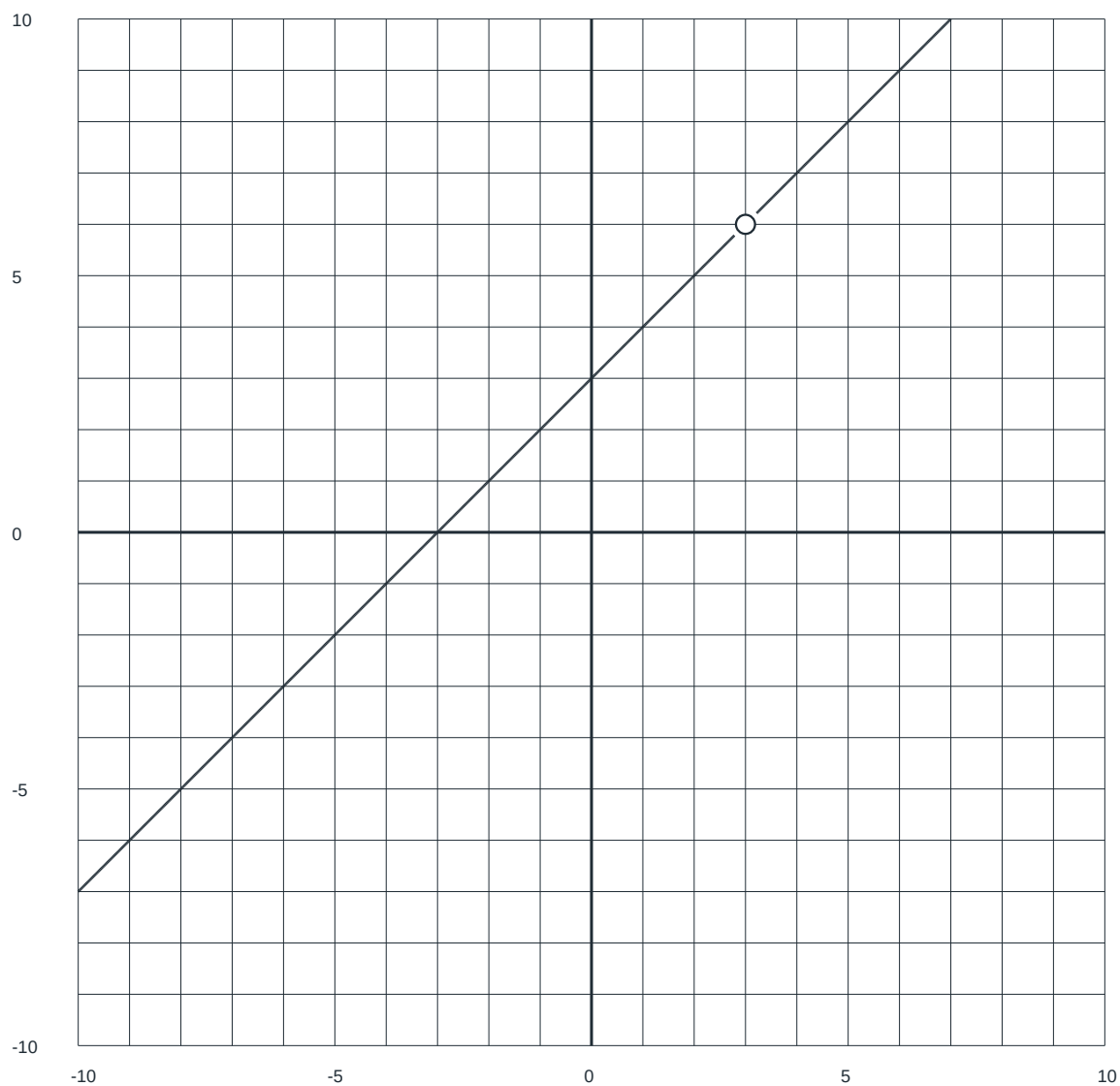
Domain: $x \neq 2$

Cancel $(x-2)$: $y=x+2$, but $x=2$ stays excluded. Hole $(2,4)$.

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Exercise 6: $y = (x^2 - 9) / (x - 3)$
 $y = (x^2 - 9) / (x - 3)$



Domain: $x \neq 3$

Cancel $(x-3)$: $y=x+3$, but $x=3$ stays excluded. Hole $(3,6)$.