

$$ax = b$$

$$ax = b$$

$$ax = b$$

▶ Start

▶ End

$$ax = b$$

▶ Start

▶ End

$$ax = b$$

$$ax = b$$

▶ Start

▶ End

$$ax = b$$

- $a \neq 0$

▶ Start

▶ End

$$ax = b$$

- $a \neq 0$

$$ax \times \frac{1}{a} = b \times \frac{1}{a}$$

▶ Start

▶ End

$$ax = b$$

- $a \neq 0$

$$\begin{aligned} ax \times \frac{1}{a} &= b \times \frac{1}{a} \\ x &= \frac{b}{a} \end{aligned}$$

▶ Start

▶ End

$$ax = b$$

- $a \neq 0$

$$ax \times \frac{1}{a} = b \times \frac{1}{a}$$
$$x = \frac{b}{a}$$

- $a = 0, b \neq 0$

▶ Start

▶ End

$$ax = b$$

- $a \neq 0$

$$ax \times \frac{1}{a} = b \times \frac{1}{a}$$
$$x = \frac{b}{a}$$

- $a = 0, b \neq 0$

$$0 \times x = b$$



▶ Start

▶ End

$$ax = b$$

- $a \neq 0$

$$ax \times \frac{1}{a} = b \times \frac{1}{a}$$
$$x = \frac{b}{a}$$

- $a = 0, b \neq 0$

$$0 \times x = b$$
$$0 = b$$

▶ Start

▶ End

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$$ax \times \frac{1}{a} = b \times \frac{1}{a}$$
$$x = \frac{b}{a}$$

- $a = 0, b \neq 0$

$$0 \times x = b$$
$$0 = b$$

There is no solution.

▶ Start

▶ End

$$ax = b$$

- $a \neq 0$

$$ax \times \frac{1}{a} = b \times \frac{1}{a}$$
$$x = \frac{b}{a}$$

- $a = 0, b \neq 0$

$$0 \times x = b$$
$$0 = b$$

There is no solution.

- $a = 0, b = 0$

▶ Start

▶ End

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- $a \neq 0$

$$ax \times \frac{1}{a} = b \times \frac{1}{a}$$
$$x = \frac{b}{a}$$

- $a = 0, b \neq 0$

$$0 \times x = b$$
$$0 = b$$

There is no solution.

- $a = 0, b = 0$

$$0 \times x = 0$$

▶ Start

▶ End

$$ax = b$$

- $a \neq 0$

$$ax \times \frac{1}{a} = b \times \frac{1}{a}$$
$$x = \frac{b}{a}$$

- $a = 0, b \neq 0$

$$0 \times x = b$$
$$0 = b$$

There is no solution.

- $a = 0, b = 0$

$$0 \times x = 0$$
$$0 = 0$$

▶ Start

▶ End

$$ax = b$$

- $a \neq 0$

$$\begin{aligned} ax \times \frac{1}{a} &= b \times \frac{1}{a} \\ x &= \frac{b}{a} \end{aligned}$$

- $a = 0, b \neq 0$

$$\begin{aligned} 0 \times x &= b \\ 0 &= b \end{aligned}$$

There is no solution.

- $a = 0, b = 0$

$$\begin{aligned} 0 \times x &= 0 \\ 0 &= 0 \end{aligned}$$

The solution is all numbers.

$$ax = b$$

Github:

<https://min7014.github.io/math20210129001.html>

Click or paste URL into the URL search bar,  
and you can see a picture moving.