

Name: \_\_\_\_\_

1. An equation is like a \_\_\_\_\_. To keep it balanced, whatever you do to one side,  
\_\_\_\_\_.

2. Solve. *Show all your steps*

a)  $x + 8 = -11$

b)  $x - 3 = -5$

c)  $-2x = -24$

d)  $\frac{x}{7} = -3$

3. Solve.

a)  $4x - 1 = 7$

b)  $-1 - 4 + 8 = -x - x + 1 + 6$

c)  $-x + 9 = 7$

4. Solve.

a)  $4x + 6 = x - 3$

b)  $-7x - 2 = -2x - 22$

5. Solve

a)  $5(x - 3) = -2(3x + 2)$

b)  $3(x - 2) - 2(x + 3) = 8x + 2$

Name: \_\_\_\_\_

1. An equation is like a balance. To keep it balanced, whatever you do to one side, you do to the other side.

4. Solve. Show all your steps

a)  $x+8=-11$

$$\begin{aligned} x+8-8 &= -11-8 \\ x &= -19 \end{aligned}$$

b)  $x-3=-5$

$$\begin{aligned} x-3+3 &= -5+3 \\ x &= -2 \end{aligned}$$

c)  $-2x=-24$

$$\begin{aligned} \frac{-2x}{-2} &= \frac{-24}{-2} \\ x &= 12 \end{aligned}$$

d)  $\frac{x}{7}=-3$

$$\begin{aligned} 7\left(\frac{x}{7}\right) &= 7(-3) \\ x &= -21 \end{aligned}$$

5. Solve.

a)  $4x-1=7$

$$\begin{aligned} 4x-1+1 &= 7+1 \\ 4x &= 8 \checkmark \\ \frac{4x}{4} &= \frac{8}{4} \\ x &= 2 \checkmark \end{aligned}$$

b)  $-1-4+8=-x-x+1+6$

$$\begin{aligned} 3 &= -2x+7 \\ 3-7 &= -2x+7-7 \\ -4 &= -2x \\ \frac{-4}{-2} &= \frac{-2x}{-2} \\ 2 &= x \end{aligned}$$

c)  $-x+9=7$

$$\begin{aligned} -x+9-9 &= 7-9 \\ -x &= -2 \\ \frac{-x}{-1} &= \frac{-2}{-1} \\ x &= 2 \end{aligned}$$

6. Solve.

a)  $4x+6=x-3$

$$\begin{aligned} 4x+6-x &= x-3-x \\ 3x+6 &= -3 \\ 3x+6-6 &= -3-6 \\ 3x &= -9 \\ \frac{3x}{3} &= \frac{-9}{3} \\ x &= -3 \end{aligned}$$

b)  $-7x-2=-2x-22$

$$\begin{aligned} -7x-2+2x &= -2x-22+2x \\ -5x-2 &= -22 \\ -5x-2+2 &= -22+2 \\ -5x &= -20 \\ \frac{-5x}{-5} &= \frac{-20}{-5} \\ x &= 4 \end{aligned}$$

7. Solve.

a)  $5(x-3)=-2(3x+2)$

$$\begin{aligned} 5x-15 &= -6x-4 \\ 5x-15+6x &= -6x-4+6x \\ 11x-15 &= -4 \\ 11x-15+15 &= -4+15 \\ 11x &= 11 \\ x &= 1 \end{aligned}$$

b)  $3(x-2)-2(x+3)=8x+2$

$$\begin{aligned} 3x-6-2x-6 &= 8x+2 \\ x-12 &= 8x+2 \\ x-12-8x &= 8x+2-8x \\ -7x-12 &= 2 \\ -7x-12+12 &= 2+12 \\ -7x &= 14 \\ \frac{-7x}{-7} &= \frac{14}{-7} \\ x &= -2 \end{aligned}$$