

# Applying Properties of Equality Homework

Truth Statement:  $x = 3$

Apply the Property of

Addition

Add 4

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

Apply the Property of

Multiplication

Multiply  
by 3

$$\begin{aligned} 3(x + 4) &= 3(7) \\ 3(x + 4) &= 21 \end{aligned}$$

Construct the Story of x

$$3(x + 4) = 21$$

Equation

- ① Add 4 to x
- ② Multiply 3 to the sum
- ③ The solution is 21 when  $x = 3$

Truth Statement:  $x = 5$

Apply the Property of

Multiplication

Multiply  
by 6

$$\begin{aligned} x &= 5 \\ 6(x) &= 6(5) \\ 6x &= 30 \end{aligned}$$

Apply the Property of

Subtraction

Subtract  
10

$$\begin{aligned} 6x - 10 &= 30 - 10 \\ 6x - 10 &= 20 \end{aligned}$$

Construct the Story of x

$$6x - 10 = 20$$

Equation

- ① Multiply 6 to x
- ② Subtract 10 from the product
- ③ The solution is 20 when  $x = 5$

Truth Statement:  $x = 7$

Apply the Property of

Subtraction

Subtract  
3

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

Apply the Property of

Division

Divide  
by 4

$$\begin{aligned} \frac{x - 3}{4} &= \frac{4}{4} \\ \frac{x - 3}{4} &= 1 \end{aligned}$$

Construct the Story of x

$$\frac{x - 3}{4} = 1$$

Equation

- ① Subtract 3 from x
- ② Divide the difference by 4
- ③ the solution is 1 when  $x = 7$



# Applying Properties of Equality Homework

Truth Statement:  $x = 6$

Apply the Property of

Division

Divide  
by 3

$$x = 6$$

$$\frac{x}{3} = \frac{6}{3}$$

$$\frac{x}{3} = 2$$

Apply the Property of

Addition

Add 7

$$\frac{x}{3} + 1 = 2 + 1$$

$$\frac{x}{3} + 7 = 9$$

Construct the Story of x

$$\frac{x}{3} + 7 = 9$$

Equation

- ① Divide x by 3
- ② Add 7 to the Quotient
- ③ the solution is 9  
When  $x = 6$

Truth Statement:  $x = 9$

Apply the Property of

Multiplication

Multiply  
by 4

$$x = 9$$

$$4(x) = 4(9)$$

$$4x = 36$$

Apply the Property of

Your Choice

Construct the Story of x

Equation

Make  
sure  
on 6 & 7  
Table agrees  
what to  
do

Truth Statement:  $x = 7$

Apply the Property of

Your Choice

$$x = 7$$

Apply the Property of

Your Choice

Construct the Story of x

Equation