Learning Targets:

I will understand how algebraic properties can help me solve equations.

G Core Concept

Algebraic Properties of Equality

Let *a*, *b*, and *c* be real numbers. Addition Property of Equality. Subtraction Property of Equality Multiplication Property of Equality Division Property of Equality Substitution Property of Equality

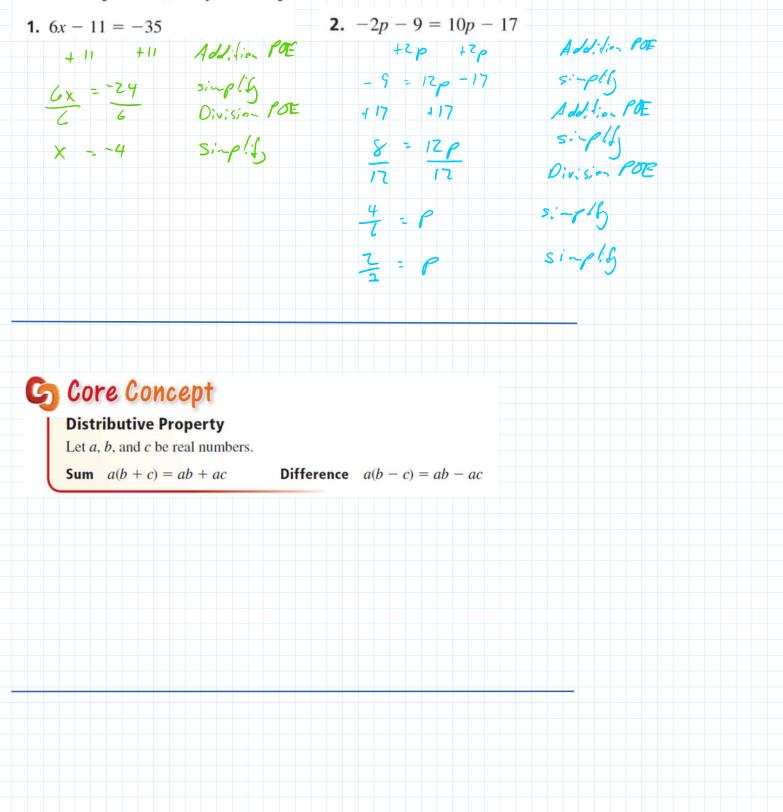
If a = b, then a + c = b + c. If a = b, then a - c = b - c. If a = b, then $a \cdot c = b \cdot c$, $c \neq 0$. If a = b, then $\frac{a}{c} = \frac{b}{c}$, $c \neq 0$. If a = b, then a can be substituted for b

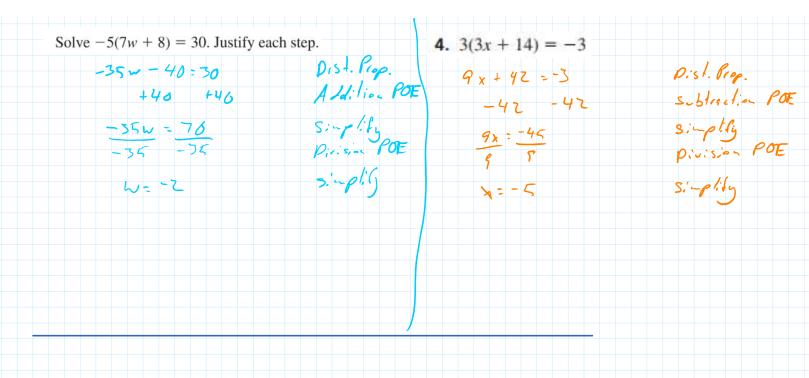
(or *b* for *a*) in any equation or expression.

Substitution POE -	-> X=5	ZX = 10	2.5=10
30331.01112000			2x=10
		2.5:10	CX-10

Solve $3x + 2 = 23 - 4x$. J	ustify each step.	3x +2 =23 -4x	
+44 +44	Alli Lion POE	7x+2=23	Addition POE
7×+2 = 23 -2 -2	Subtraction POE	7x = 71	Subtraction POE
$\frac{7_{y}}{7} = \frac{21}{7}$	simplify Division POF	X = 3	Division POE
X=3	si-plify		

Solve the equation. Justify each step.





Symutric Prop.

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G Core Concept

synatic 7 5=X X=5

Reflexive, Symmetric, and Transitive Properties of Equality

	Real Numbers	Segment Lengths	Angle Measures
Reflexive Property	a = a	AB = AB	$m \angle A = m \angle A$
Symmetric Property	If $a = b$, then $b = a$.	If $AB = CD$, then $CD = AB$.	If $m \angle A = m \angle B$, then $m \angle B = m \angle A$.
Transitive Property	If $a = b$ and $b = c$, then $a = c$.	If $AB = CD$ and $CD = EF$, then $AB = EF$.	If $m \angle A = m \angle B$ and $m \angle B = m \angle C$, then $m \angle A = m \angle C$.

Name the property of equality that the statement illustrates.

- 7. If $m \angle 6 = m \angle 7$, then $m \angle 7 = m \angle 6$.
- **8.** $34^\circ = 34^\circ$
- 9. $m \angle 1 = m \angle 2$ and $m \angle 2 = m \angle 5$. So, $m \angle 1 = m \angle 5$.

Practice Pg. 96 1, 2, 3-41 EOO