Solve Equation Worksheets

1. Describe the property used to convert the equation from one line to the next:

$x(1-x)+2x-4=8x-24-x^2$

$x-x^2+2x-4=8x-24-x^2$ _____

$x+2x-4=8x-24$ _____

$3x-4=8x-24$ _____

$3x+20=8x$ _____

$20=5x$ _____

2. Solve the equation for x. For each step, describe the operation used to convert the equation.

$3x-[8-3(x-1)]=x+19$

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1. Describe the property used to convert the equation from one line to the next:

$x(1-x)+2x-4=8x-24-x^2$	
$x-x^2+2x-4=8x-24-x^2$	Distributive property
$x+2x-4=8x-24$	Added x^2 to both sides of the equation
$3x-4=8x-24$	Collected like terms
$3x+20=8x$	Added 24 to both sides of the equation
$20=5x$	Subtracted $3x$ from both sides of the equation

2. Solve the equation for x. For each step, describe the operation used to convert the equation.

$3x-[8-3(x-1)]=x+19$

$3\boldsymbol{x}-[8-3(\boldsymbol{x}-1)]=\boldsymbol{x}+19$	
$3\boldsymbol{x}-(8-3\boldsymbol{x}+3)=\boldsymbol{x}+19$	*Distributive property*
$3\boldsymbol{x}-(11-3\boldsymbol{x})=\boldsymbol{x}+19$	*Commutative property/collected like terms*
$3\boldsymbol{x}-11+3\boldsymbol{x}=\boldsymbol{x}+19$	*Distributive property*
$6\boldsymbol{x}-11=\boldsymbol{x}+19$	*Commutative property/collected like terms*
$5\boldsymbol{x}-11=19$	*Subtracted x from both sides*
$5\boldsymbol{x}=30$	*Added 11 to both sides*
$\boldsymbol{x}=6$	Divided both sides by 5

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