3.3 Solving First-Degree Equations Involving One Step – Part I

Class Notes – A solution to each equation is given. Check to see if the solution is correct or incorrect.

LP#1 x + 5 = 8 x = 3	x – 8 = 7 x = 18	4x = 36 x = 8	$\dfrac{x}{9} = 3$ $x = 27$
LP#2 75 = 100 – x x = 15	19 + x = 52 x = 33	$\dfrac{x}{22} = 3$ $x = 66$	156 = 12x x = 12

Go to http://en.wikipedia.org/wiki/Equations#Properties. Read the section titled "Properties".

State which property to use here.	Solve each equation here.
	$x + 6 = 79$
	$x - 9 = 37$
	$5x = 65$

Class Notes – Solve each first-degree equation and check. If you do not solve an equation, explain why.

LP#3 $y + 8 = 20$	$x - 6 = 10$	$x^2 + 1 = 26$
LP#4 $m - 10 = -2$	$h^4 + h = 6$	$y + 96 = 56$
LP#5 $3t = 24$	$4x^3 = 32$	$-36 = 4b$
LP#6 $200 = 2x^2$	$-42 = -7x$	$-2d = 84$

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Class Notes – Solve each equation for x.

LP#7 $x - m = p$	$w = x + y$	$h + x = k$
LP#8 $6x = r$	$c = -11x$	$15p = 3x$

Review – Solve each first-degree equation and check. If you do not solve an equation, explain.

R#1 $15x = 60$	$x - 15 = 49$	$k^3 + 1 = 28$
R#2 $10 - w = 87$	$m^2 = m + 6$	$\dfrac{x}{14} = 9$

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R#3 $4p^2 = 100$	$8k = 96$	$76 + x = 32$

Homework –

Solve each first-degree equation and check. If you do not solve an equation, explain.

1) $x - 8 = 32$ **2)** $18 - y = 52$ **3)** $10x^3 = 90$ **4)** $56 + b = 29$

5) $p - 18 = 92$ **6)** $24 - w = 68$ **7)** $67 + x = 23$ **8)** $124 + k = 18$

9) $x^2 + 5 = 54$ **10)** $f + 76 = 27$ **11)** $212 + v = 197$ **12)** $131 + g = 17$

13) $6x = 54$ **14)** $\dfrac{x}{12} = 4$ **15)** $13y = 65$ **16)** $k^4 + 10 = k$

17) $9w = 108$ **18)** $\dfrac{x}{5} = 21$ **19)** $20x = 140$ **20)** $\dfrac{x}{21} = 6$

21) $7k = 98$ **22)** $\dfrac{x}{6} = 14$ **23)** $96 = 6x^2$ **24)** $\dfrac{x}{14} = 3$

25) $32 + m = 18$ **26)** $56 - d = 102$ **27)** $\dfrac{x}{18} = 6$ **28)** $4m = 76$

Solve each equation for x.

29) $x + m = p$ **30)** $w = x - y$ **31)** $h - x = k$

32) $3x = r$ **33)** $c = -7x$ **34)** $25p = 5x$

Synthesis

Simplify both sides of the equation. Do not solve.

35) $20(x - 6) + 8 = 4 + x - 116$ **36)** $4(y + 7) - 3 = y + 30 - 5$ **37)** $-15 + 10w + 4 = 2(6w - 8) + 2$

38) $5(v - 2) = 8(v - 4)$ **39)** $2(x + 5) = 4(x - 10)$ **40)** $3(m + 6) = 6(m + 12)$

A solution for x is given for each equation. Check to see if the solution is correct or incorrect.

41) $x + y = w$ **42)** $3x = r$ **43)** $p - x = m$ **44)** $\dfrac{x}{8} = h$

$x = w - y$ $x = 3r$ $x = m - p$ $x = 8h$

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