L.1, L.2 In-class Practice

- 1. Solve each equation. If applicable, state whether it is an identity or a contradiction.
 - a) 5(x+3) + 4x 5 = 4 2xb) -6x + 2x - 11 = -2(2x - 3) + 4c) 4(x+2) - 8x - 5 = -3x + 9 - 2(x+6)d) 7[2 - (3 - 4x)] - 2x = -9 + 2(1 - 5x)e) -[3x - (2x+5)] = -4 - [3(2x - 4) - 3x]f) -2 + 3x = 5x - 2(x - 3) - 8
- 2. The expression 0.06(10 x)(100) is equivalent to which of the following?
 - a) 0.06 0.06x b) 60 6x c) 6 6x d) 6 0.06x
- 3. Suppose that in solving the equation $\frac{1}{3}x + \frac{1}{4} = \frac{1}{6}x$, we begin by multiplying each side by 24, rather than the least common denominator, 12. Would we get the correct solution?
- 4. Solve each equation.

a)
$$\frac{x}{10} - \frac{x}{15} = 1$$

b) $\frac{x-10}{5} + \frac{2}{5} = -\frac{x}{3}$
c) $\frac{3x-1}{4} + \frac{x+3}{6} = 3$
d) $\frac{2}{3}(9y-6) - 5 = \frac{2}{5}(30y-25) - 7y$

- 5. *Concept check:* To solve a linear equation with decimals, we usually begin by multiplying by a power of 10 so that all coefficients are integers. What is the least power of 10 that will accomplish this goal in each equation?
 - a) 0.05x + 0.12(x + 5000) = 940
- b) 0.006(x + 2) = 0.007x + 0.009
- 6. Solve each equation. a) 0.08x + 0.12(260 - x) = 0.48x

b)
$$0.004x + 0.006(50 - x) = 0.004(68)$$

- 7. Solve each formula for the specified variable.
 - a) I = Prt for tb) $V = \frac{1}{3}\pi r^2 h$ for hc) $F = \frac{9}{5}C + 32$ for Cd) $2\pi r + 4r = 5$ for r
- 8. If the simple interest on \$1000 for 2 years is \$300, then what is the rate?
- 9. The area of the shaded triangle ABE is 20 cm^2 . Find the area of the trapezoid.
- 10. A rectangular reflecting pool with a horizontal bottom holds 60,000 gallons of water. If the pool is 40 feet by 100 feet, how deep is the water?



- 11. If the circumference of the earth is 25,000 miles, then what is the radius?
- 12. Between 2000 and 2007, the estimated population of Pittsfield declined from 134,953 to 129,798. What was the percent decrease to the nearest tenth?