Lesson 10.1.4

10-34. **a.** possible equation. $10x + 45 = 15$, $x = -3$
b. Six is the smallest number that can eliminate all fractions. Any multiple of 6 works, as does multiplying first by 3 and then again by 2.

10-35. **a.** $3x - 2x = 8$, $x = 8$ **b.** $5 - 2x^2 = 3x$, $x = 1$ or -2.5
c. $-14x + 7 - 3x - 9 = 168$, $x = -10$ **d.** $x + 3 + 2x - 4 = x + 5$, $x = 3$

10-36. **a.** $p \neq 2$ or -4 because they would cause one (or both) denominators to be zero.
b. $p = 3$ or -4. However, $p = -4$ is an excluded value, and therefore is extraneous. Hence, the solution is $p = 3$.

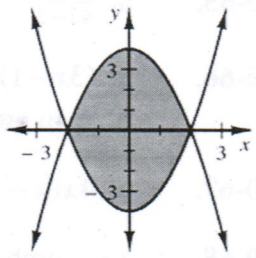
10-37. **a.** $x^2 + 4x + 3 = 0$, $x = -1$ or -3 **b.** $a^2 - 6a + 9 = 0$, $a = 3$
c. $12m - 2 = 38 + 10m$, $m = 20$ **d.** $2(x - 3) + 3x = 4(x + 5)$, $x = 26$

10-38. **a.** $x = 4$ **b.** $x = -5$ or 2 **c.** $x = \frac{16}{3}$ **d.** $x = \frac{1}{2}$

10-39. **a.** $\frac{(x-2)(x+6)}{(x+4)(2x+3)}$ **b.** $\frac{2x+1}{x-5}$ **10-40.** **a.** $t = 5$ seconds **b.** 100 feet

10-41. $t + s = 27$, $\frac{1}{2}t + \frac{1}{4}s = 11\frac{1}{2}$, $t = 19$ *Times* papers

10-42. See diagram at right. **10-43.** C



Lesson 10.2.1

10-44. $x = 2$ **10-45.** $4x + 12 = 20$, $x = 2$

10-46. **a.** Divide by 4; dividing "undoes" multiplication, because they are inverse operations.
b. after dividing, $x + 3 = 5$, $x = 2$; yes
c. Using the opposite operation eliminates (or "undoes") the multiplication.

10-47. **a.** If you treat $(x + 3)$ as a group, then $4 \cdot$ (group) = 20. Therefore, $x + 3 = 5$
b. $x + 3 = 5$, $x = 2$; yes

10-48. $1 \cdot iii$, $2 \cdot i$, $3 \cdot ii$ **10-49.** **a.** 34 **b.** 15 **c.** 11 **d.** 2 **e.** 25 **f.** 27
s

10-50. **a.** $x = 10$ or 4 **10-51.** **a.** Both Hank and Frank are correct. **b.** two

10-52. **a.** 4 or -4 **b.** 100 or -100 **c.** no solution **d.** -3 or 7

10-53. (a), (b), and (c) all are equal to 1.

10-54. **a.** $x > -2$ **b.** $x \leq 12$ **c.** $x > 1$ **d.** $x \geq 15$

10-55. **a.** $3 + 4x = 14$, $x = \frac{11}{4}$ **b.** undoing rewriting

10-56. Let x represent the amount of money the youngest child receives. Then $x + 2x + x + 35 = 775$; \$185, \$370, and \$220.