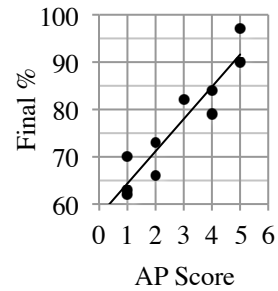


CCPM

Selected Answers
for
Core Connections Algebra

Lesson 4.1.1 (Day 1)

4-8. Approximately $f = 58 + 7a$ where f is the final exam score (in percent) and a is the AP score; about 79%. See graph at right.



4-9. **a:** no solution **b:** $x = 13$

4-10. $(-1, 3)$

4-11. Cadel is correct because he followed the exponent rules. Jorge is incorrect; the problem only contains multiplication, so there are not two terms and the Distributive Property cannot be used. Lauren did not follow the exponent rules.

4-12. **a:** $3y(y - 4) = 3y^2 - 12y$ **b:** $(3y + 5)(y - 4) = 3y^2 - 7y - 20$

4-13. No; 2 is a prime number and it is even.

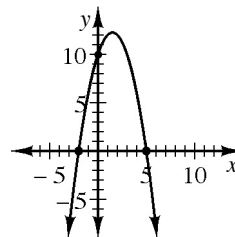
Lesson 4.1.1 (Day 2)

- 4-14.** If $x =$ the length, $2(x) + 2(3x - 1) = 30$, width is 4 in., length is 11 in.
- 4-15.** Lakeisha, Samantha, Carly, Barbara, and Kendra.
- 4-16.** She combined terms from opposite sides of the equation. Instead, line 4 should read $2x = 14$, so $x = 7$ is the solution.
- 4-17.** This statement is sometimes true. It is true when $x = 0$, but otherwise it is false because the Distributive Property states that $a(b + c) = ab + ac$.
- 4-18.** $y = \frac{1}{2}x + \frac{5}{2}$
- 4-19.** **a:** $6x^2 - x - 2$ **b:** $6x^3 - x^2 - 12x - 5$

Lesson 4.1.2

- 4-25.** **a:** $t - 4$; $2(t - 4)$ **b:** $150 - c$ **c:** $14.95c + 39.99v$
- 4-26.** If Nina has n nickels, then $5n + 9 + 5(2n) = 84$, and $n = 5$ nickels.
- 4-27.** See table and graph below. x -intercepts $(-2, 0)$ and $(5, 0)$ and y -intercept $(0, 10)$.

x	-3	-2	-1	0	1	2	3	4	5	6
y	-8	0	6	10	12	12	10	6	0	-8



- 4-28.** **a:** not a function, D: $-3 \leq x \leq 3$, R: $-3 \leq y \leq 3$
b: a function, D: $-2 \leq x \leq 3$, R: $-2 \leq y \leq 2$
- 4-29.** $x = 1$; It will create a fraction with a denominator of zero, which is undefined.
- 4-30.** **a:** -15 **b:** -4 **c:** 3 **d:** $-m^3$

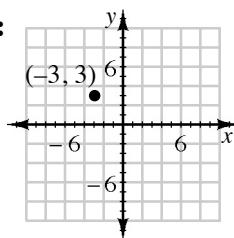
Lesson 4.2.1

4-36. A very strong positive non-linear association with no apparent outliers.

4-37. **a:** $a = 0$ **b:** $m = -2$ **c:** $x = 10$ **d:** $t = 2$

4-38. **a:** ii **b:** 4 touchdowns and 9 field goals

4-39. **a:**



x	y
-3	3
-2	1
-1	-1
0	-3
1	-5
2	-7
3	-9

b: Yes; $(-3, 3)$ and $(-2, 1)$ both make this equation true.

4-40. Katy is correct; the $6x - 1$ should be substituted for y because they are equal.

4-41. **a:** $\frac{1}{8}$ **b:** b^4 **c:** 9.66×10^{-1} **d:** 1.225×10^7

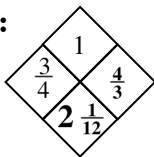
Lesson 4.2.2

4-49. Yes; each point makes the equation true.

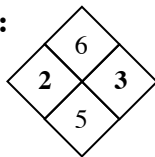
4-50. **a:** $(3, 5)$ **b:** Answers will vary.

4-51. **a:** $h = 2c - 3$ **b:** $3h + 1.5c = 201$ **c:** 28 corndogs were sold.

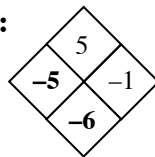
4-52. **a:**



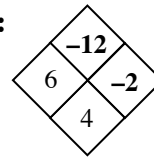
b:



c:



d:



4-53. Yes; adding equal values to both sides of an equality preserves the equality.

4-54. **a:** $x = 2.2$ **b:** $x = 6$ **c:** $x = -10.5$ **d:** $x = 0$

Lesson 4.2.3

- 4-60.** a: $(-5, 1)$ b: $(3, 1)$ c: no solution
- 4-61.** a: There are infinite solutions.
b: The two lines coincide.
c: Since the two lines coincide, they will have an infinite number of points of intersection. Thus, the system has infinite solutions.
- 4-62.** a: Let p represent the number of pizza slices and b represent the number of burritos sold. Then $2.50p + 3b = 358$ and $p = 2b - 20$.
b: 82 pizza slices were sold.
- 4-63.** \$36.88
- 4-64.** a: $x^2 - 3x - 10$ b: $y^2 + 5xy + 6x^2$
c: $-3xy + 3y^2 + 8x - 8y$ d: $x^2 - 9y^2$
- 4-65.** a: Moderately strong negative linear association with no apparent outliers.
b: About 25 mpg.

Lesson 4.2.4

- 4-71.** a: $(3, 1)$ b: $(0, 4)$ c: $(10, 2)$ d: $(-4, 5)$
- 4-72.** These lines coincide. There are infinite points of intersection.
- 4-73.** a: $x = 4$ or $x = -4$ b: $x = 7.9$ or $x = -1.5$
c: $x = -\frac{5}{6}$ or $x = -2\frac{1}{6}$ d: $x = -1\frac{1}{7}$ or $x = -\frac{6}{7}$
- 4-74.** They are both correct. The lines coincide.
- 4-75.** $y = 2x + 5$, 105 tiles
- 4-76.** a: $b = y - mx$ b: $x = \frac{y-b}{m}$ c: $t = \frac{1}{pr}$ d: $t = \frac{A-p}{pr}$

Lesson 4.2.5

4-81. a: $(0, \frac{1}{3})$ b: $(-6, 2)$ c: no solution d: $(11, -5)$

4-82. $2n = p$ and $n + p = 168$; 56 nectarines are needed.

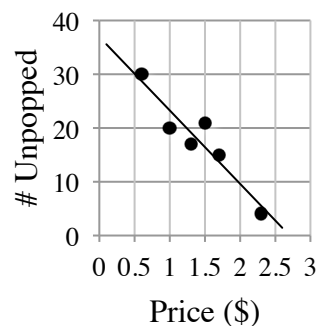
4-83. a: Yes, because these expressions are equal.

b: $5(3y) + y = 32$, $y = 2$, $x = 3.5$

4-84. a: -127 b: 10 c: -4 d: -24

4-85. a: See graph at right. $u = 37 - 13.7p$ where p is the price in dollars and u is the number of unpopped kernels.

b: ≈ 21 kernels



4-86. a: $m = -12$ b: $x = -24$ c: $x = \frac{16}{5}$

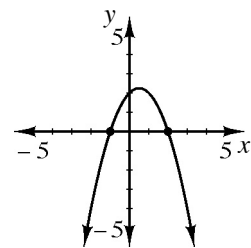
Lesson 4.3.1 (Day 1)

4-98. a: all numbers b: $(\frac{1}{3}, -\frac{3}{2})$ c: $(1, 2)$ d: $(8, 7)$

4-99. a: It is a line.

b: Answers will vary.

c: $y = 3x + 2$; Yes, because the points are the same.



4-100. $y = 2x + 6$; 206 tiles

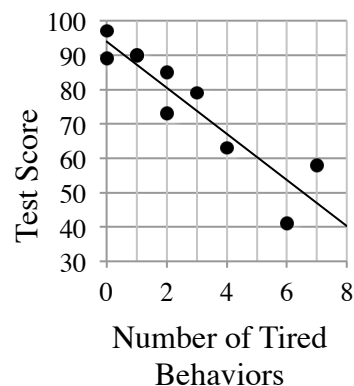
4-101. See graph at right. $(-1, 0)$ and $(2, 0)$

4-102. Mr. Greer distributed incorrectly.
The correct solution is $x = 2$.

4-103. a: See graph at right.

$y = 94 - 6.7x$ where y is the test score and x is the number of tired behaviors observed.

b: ≈ 61



Lesson 4.3.1 (Day 2)

4-104. $n + d = 30$ and $0.05n + 0.10d = 2.60$, so $n = 8$. There are 8 nickels.

4-105. (a), (b), and (d)

4-106. $y = -5x + 3$

IN (x)	2	10	6	7	-3	0	-10	100	x
OUT (y)	-7	-47	-27	-32	18	3	53	-497	$-5x + 3$

4-107. a: $\frac{8}{25}$ **b:** xy^6 **c:** 1.2×10^9 **d:** 8×10^3

4-108. Answers will vary.

4-109. a: -2 **b:** 9 **c:** 3 **d:** 1 **e:** 3 **f:** 5

Lesson 4.3.1 (Day 3)

4-110. C

4-111. a: no solution **b:** $x = 5, y = 2$

4-112. These expressions are equivalent because of the Commutative Properties of Addition and Multiplication.

4-113. a: $x^2 + 9x + 20$ **b:** $2y^2 + 6y$

4-114. a: $x = -5$ **b:** $y = 2x - 3$
c: no solution **d:** $y = -3x + 5$

4-115. 17, 18, and 19