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Cpm selected answers

1 Selected Answers for Core Connections, Course 3 2 Lesson Answers will be a.b.c. d. d. a: Answers will be.b: Answers will be. A half, a fourth, one and a half. c: 8 10, etc., 0.8, 80% d: Answers will each. 1 3rd: Answer was, 10%, one tenth a: = 270 ft 2 b: = 644 ft 2 c: = 120 ft 2 d: 52 feet 1-7. a: True b: False d: True Lesson a: See numbers on the right. b: It grows b two tiles each time. c: Answers will be a, b, and c: See sample graph to right a: 15, 21, add increasing amount using count numbers starting with 2; b: 1 16, 1 32, multipl b 1 2 ; c: 81, 243, multipl b 3; d: amount, using counting the numbers starts with 1; e: 53, 58, subtract 2 then add 5 repeated a: b: c: d: a: (3, 1) and (2, 3) b: (2, 1) and (3, 2) Figure 4 Figure CPM Educational Program. All rights reserved. Core Connections, Course 3 5 Fat (g) Dogalicious Hotdogs Dog-Eat-Dog Hot Doggies Weight (g) 4 3 Lesson a: Answers will each.b: 3 a: 1, b: 0, c: 4, d: 4, e: 0, Answers each , 21, and one: 74.5%. No, because she consistentl scores over 80%. b: 84.25% c: It lowered her mean a lot. Yes = 642 centimetres b d c a e Lesson (Da 1) a: See the sample graph on the right. b: Yes, students with larger shoe sizes tend to be taller a: median = 8, minimum = 6, maimum = 10 b: first quartile = 7.5, third quartile = 8.5 c: Height (cm) ShoeSize d: Responses will be a: ( ) 2 = 80.5 b: 83.67% a.b.c. d a: 8 b: 29 c: 48 d: 22 e: 80 f: 12 g: 0 h: 3 in: 5 j : 30 k: 0 l : 10 Selected Responses 2013 CPM Training Programs. All rights reserved. 3 4 16 Lesson (Da 2) a: 7,5 in.b: 12 m c: 16,5 cm a: 9 14 b: 30 c: d: ( ) 4 = 84% a: See plot to the right. b: mean = , median = 27 c: The mean would be lower and the median would remain unchangedE MT 45 sq. units, CA 51 sq. units a: A 5-unit square with a 4-unit square inside it. b: 9 un 2 Lesson a: Not proportional because the graph does not go through origin. b: Not proportional because the graph is not linear and does not go through origin. c: Proportional a: 1.15 b: 24 5 c: 0.24 d: f: g: or h: a: Stead increase in speed. in: 0.87 b: Rapid increase in speed then levels off at certain speed. c: Increase acceleration, increase speed more and more quickl a: See graph on the right. b: It grows faster as das go b. Height (cm) Time (das) CPM Training Program. All rights reserved. Core Connections, Course 3 5 Lesson a: 20 b: c: hours Number of letters: 15, 42 Cost of stamps: $3.15, $0.45, $Number of students Hours of Sleep Todd is 37 ears old, while Jamal is 27 ears old a: d: 4 3 = b: 4.1 c: = 7 5 = e: = f: 2.24 Lesson a: P = 120 units, A = 647 sqm units b: P = 70 units , A = 192 sqm units 2-9. a: 11 b: 14 c: 30 d: Let represent the shorter piece, = 84, = 33. The pieces are 33 meters and 51 meters long. Selected Answers 2013 CPM Educational Program. All Reserved. 5 6 Lesson a: b: This epression, epression, epression, none of the conditions are c: d: 4m 2 + 5m + 2mn a: 7 b: 14 c: 2 d: a: 200 blue canines b: $ 1495. $14,950. $a: A(4, 3), B(2, 1), C(2, 0), and D(3, 3) b: 4 2 E F 2 4 G H Lesson a: b: c: 4 c: Let b represent the number of beige tiles, b + (b + 25) + 3b = 435, b = 82. She is buing 82 beige, 107 red, and 246 hub-blue plates a: 45 b: 10 c: 2 d: 264 th: 1 4 f: 35 g. 70 g b: 3.5 grams per cookie c: Cookies: 200, 400 Sugar:35, 70, 7, 3.5, CPM Educational Program. All rights reserved. Core connections, Course 3 7 Lesson a: Possible b: Possible c: Not possible a: 2 3 (+1) = 4 b: = 2 c: (+ 2) = a: 14 b: 6.5 c: 74 d: 12th: a: b: c: d: perimeter = 52 units, area = 168 sq. units Lesson a: b: c: d: Yes, Francine is correct. Commutative Propert of Appendix a: The steeper line is B.b: 3 ears c: $65,000 d: Compan B. Its line is steeper a: 23.8 b: 36 c: 1.5 d: Egg Answers Selected 2013 CPM Educational Program. All rights reserved. 7 8 Lesson a: The right side is larger. b: They are equal a: A = 2, B = 4, C = 3, D = 1. 5 is not matched. b: Base = 6 units, height = 4 units, surface = 24 square units c: The area of the rectangle represented b point (6, 4) is 24 sq. devices, not 36 sq. Devices. d: Answers will each. e: A curve a: 31 b: c: 10 d:a: $ = $ 4.19 b: $ gallons = $ c: 1.2 liters. $5.03 $4.19 = one: Car A, because its line is steeper. b: A(2, 120), B(4, 120) (c): d: Yes, because the distance = constant time. Lesson Not really. She correctl away 2 from both sides, flipped a 1 from the region to + region, and removed a zero; however, on the left side, 1 and 1 of the region do not make zero, so this is not a legal move one: Associative Prop. of Appendix b: Commutative Prop. of Appendix c: Associative Prop. of Appendix a: Figure 4 is a 5 b 5 square, and Figure 5 is a 6 b 6 square. b: One 11 b 11 square A 101 b 101 square. c: Figure 5 would have 21 plates. Figure 8 would have 33 plates. Each digit has 4 more plates than the number before it a: ; 4(10) + 2(6) + 2 = 54 units b: = (10) 2 + 2(6) +1 = 113 square units a: 4 b: 1 c: 7 d: 2 e: 5 f: 6 g: CPM Training programme. All rights reserved. Core Connections, Course 3 9 Lesson (4) = 2 3 (2) a: Not true, because b: True (Identit Prop. by Mult.) c: True (Inverse Prop. of Mult.) d: True (Inverse Prop. of Mult.) a: b: c: 0 d: Answer will every a: 60 b: 32 c: 3598 d: 6 Lesson Let represent the number of weeks she saves, = 87, = 16, It will taker her 16 weeks to save mone a : True (Commutative Prop. by Mult.) b: True (Identit Prop. of Add.) c: False d: True (Identit Prop. of Mult.) a: b: c: d: The 24-ounce bag is best. It costs approimael 5 per ounce, while 36-ounce bag costs about 8 per ounce a: 8 b: 1 c: 2 d: 17 a: 45 f: 125 Selected Responses 2013 CPM Training Program. All rights reserved. 9 10 Lesson a: Rule- Triple and add 2; IN: 7, 100, 2, 6.5(b: Rule: Multipl b 2.5; In: 3, 11; OUT: 22.5, 0 0 Rule: Divide b 2 and add 1; In: 6, 7; UT: 1.5, a: It subtracts 6 from the input value. b: = 385, $50, $250 and $ (+ 3) = 6 (1 1). = a: Car B. Its line is steeper. b: In 2 hours, both cars were 80 miles awa from the game. c: 160 miles Lesson a: Multipl b 2 and add 1. b: = a: + 4 = 3 2 ; = 3 b: + 2 = 1; = a: 31 b: a: 13 b: 4 c: 36 d: 4 e: 16 f: CPM Training programme. All rights reserved. Core Connections, Course 3 11 Lesson a: = 5 b: = 10 c: = 15 d: = 2 e: = 10 f: = 3 or a: c = 2 b: No solution (+ 3) = 6 (1+1). = pupils a: 26 b: 4 c: 2 d: a: Multipl b 3. b: = a: = 4 b: p = a: 2 +1 (2) = 2 (2), = 1 b: 0 = $ game. $ a: , , , b: c: Lesson Answers will be a: = 2 b: = a: 37 b: 5.5 c: 3 d: a: 71.4 or 72 tomatoes b: 81 people Schnauzers Answers Selected 2013 CPM Educational Program. All rights reserved. 11 12 Lesson = a: b: a: left = 4, right = 7 (left is larger) b: left = 5, right = 1 (right is greater) a: 8 15 or 0.53 b: a: = 2 b: = 3,5 c: d: or Lesson Sample table and graph: Figure 0 will have 1 square, Figure 4 will have a 5-b-5 square with 8 tiles attached in a row on the right, and Figure 100 will have a 101-b-101 square with 200 tiles attached in a row on the right, 2(7) + 4(3) + 2 = 28 units a: c: c: d: CPM Educational Program. All rights reserved. Core Connections, Course 3 13 Lesson a: b: (3, 2) c: A parabola d: (3, 2) should (3, 5) a: b: c: the parabola in part (a) points upwards, while parabola in part (b) points downwards. d: ± 2.6th: ± a: $30 b: She earns $6 per hour, so after hours, she earns $6. c: See graph to the right. It should be continuous assume that she is paid for partial hours Left Epression: 2 + 4, ; Right Epression: 3+1, 0; Eplanation: Turn the tiles from region to + region, Take 4 awa from both sides a: b: c: d: Selected Answers 2013 CPM Educational Program. All rights reserved. 13 14 Lesson a: = 2 b: = 1 c: (3) represents the opposite of 3, which is a: Yes b: No c: No d: Yes IN () UT () a: See graph on the right. b: It's an oblique line that decreases that increases a:b:c:d:a: $68.75 b: 20 pounds -intercept: (0, 1) -intercept: (0.5, 0) (2, 3) Lesson a: = Figure 0 0 Figure 4 b: (5, 12: a: b: = 2 1 IN () OUT () Area 176.7, circumference a: A number b: m = 9 c: = 4 d: p = a: # of Books 12, 73 b: Minutes 0, 14 c: Miles 420, 350 Das 15, 1 Block 2,5, 50, 75 Liter 1, 5, CPM Training Programme. All rights reserved. Core Connections, Course 3 15 Lesson a: No solution b: = 3.5 c: A number d: = a: 42 b: 3 c: 12 d: Let represent the width of the rectangle, 2 + 2(2 + 3) = 78, 27 cm and 12 cm IN () OUT () a: See graph entortte to the right. b: A parabola opening up a: 20 7 = b: c: d: = 48 5 = Lesson a: b: c: d: They download at the same rate, 0,8 songs/min a: = 2 b: = 1 c: All numbers a: = IN 4; UT 8, 3, 1, 24 a: Answers will be. Sample response: The product is alwas 24. b: = 24 or = 24 c: See graph right a: Three less than five times b: Twice the sum of and c: Three b decreased the sum of and 5 Selected Responses 2013 CPM Training Programs. All rights reserved. Core Relations, Course 3 17 Lesson (Da 1) 4-2. a: Figure 0 Figure 4 Figure 5 Figure 5 Figure 0 4 Figure 5 c: d: Figure 0 4 Figure 5 e: Figure 0 Figure 5 Slide 5 Slide 0 Figure 0 Figure 0 4 Figure a: b: c: Point should be on (5, 19), because the rule is = or because it is possible to predict on grapha: 45 b: 6 c: 62 d: b: d: a: 6 21 b: c: 5(+ 2) d: 4(2 + 3) Selected Answers 2013 CPM Educational Program. All rights reserved. 17 18 Lesson (Da 2) 4-7. a: Parabolan should pass through points (0, 0) and (2, 0) and have a verte vid (1, 1) She should have received two sports cars and ten furniture (2) = 3 (+ 2) a: = a: b: c: 0 d: = 2 +1 Lesson a: 3 b: words IN 5; UT 19, 1, 15, 2005, 2+5 a: Multipl b 2 and add 5. b: = Each sister received 1 poster, 72 books, and 8 CDs a: 25π 78.5 sq ft: $CPM Training Program. All rights reserved. Core Connections, Course 3 19 Lesson a: b: Figure 0 4 c: = cm Figure # # of Plates a: = 2 b: = IN () UT () = 25 (unit speed), = 120 gallons Lesson a: Answers each.b: Each digit has 4 more plates than the number before it. c: = Figure 0 has 7 plates. Figure 1 has 9 tiles. The pattern of growth is to add 2. The rule is = a: All numbers. b: = If is m number, then 5 2 = 1; = IN: 5, 5, 4, 1.5, 50; UT: 11 a: Multiple b 3 and subtract 2. b: Answers will each. Selected Answers 2013 CPM Educational Program. All rights reserved. 19 20 Lesson Possible solution table: a: See graph to the right. b: Yes. 152 = 3(50) Answers will be A = 72,25π mm 2, C = 17π 53,4 mm (0,2) a: b: c: d: a: 5 1 b: 11 1 c: 5 1 d: Answers will each a: The line should pass through (3,0) and (0,3). b: Yes. 29 = a: A number. b: = 0 c: r = 6 d: No solution a: = 6 b: = 16 c: = 1,5 d: = a: This shall be a horizontal line with a positive value ending at = 10. b: This should start with a positive value and have a slope of 0, then it should turn to negative slope, and then it should return to a slope of 0 at -ais. c: This should start horizontall along the line = 0, then should rise quickl to a higher horizontal line, and then it should drop to a lower positive horizontal line, ending at = CPM Educational Program. All rights reserved. Core Connections, Course 3 21 Lesson a: b: c: a: A and C have 0 tiles, and B has 30 tiles. b: C grows most quickl at 10 plates per digit. Its line is the steepest. c: Figure 2. The lines intersect at (2, 20). d: = The first can be entered, is twice increased b 5, and the second can be entered, is 6 increased b 5. a: Both have 5 tiles. b: = m is larger a: A = 72 sq cm, P = 48 cm b: A = 37,7 sqm i., P = in teaspoons, which are 3 tablespoons and 3 4 teaspoons. Lesson a: : (1,5, 0), : (0, 3) b: and : (0, 0) c: No -intercept, : (0, 3) d: : (6, 0), : (0, 3) a: : 250; : 65, 405, b: : 56, 296, 596,

8, 299, Figure = Josie is correct, 10 inch long a: A 28.27cm 2, C 18.85cm b: A ft 2, C ft c: A ft 2, P ft d: A ft 2, P ft Selected Answers 2013 CPM Educational Program. All rights reserved. 21 22 a Lesson = a: = 5 b: = 2 3 c: No solution d: = a: 11.2 b: 7.5 c:3.75 d: See graph to the right. (2, 5) 5-9. The answers will be. Lesson a: = 10.5 b: = Answers will be A + A + (A 15, 000) = 99, 000, 54,000 votes a: m = 3 b: (0, 2) c: = a: = 5 b: = 2 c: = 0 d: = CPM Educational Program. All rights reserved. Core Connections, Course 3 23 Lesson or 2.57 blocks per minute = minutes a: Leslie passes Gale b: 2:00 p.m.c: 18 miles d: Response will each. e: At approximate 6:40 p.m See graph to the right. a: = 3 1 b: = a: Opposite of increased b 8. (b) 48 less than twice. c: The square of the sum of and 3. d: 6 2 nd: a: = +5 2 b: w = p 9 3 c: m = 2n + 5 d: = Science Club: = , Math Club: = b: For 6 weeks. c: $a: b: int: (0, 1), -int: (1 2, 0) dumplings, 12 egg rolls, 4 sweet buns, and 4 drinks a: = 10 7 b: = 27 5 Selected Responses 2013 CPM Educational Program. All rights reserved. 23 24 Lesson She is not correct, because the point does not make both equations true See graph on the right. a: (2, 1) b: (2, 1) c: Answers each come a: = 20 b: a = a: It does not intersect, they are parallel. b: No solution. c: Parallel lines do not intersect at bat Lesson a: (5, 3) b: (2, 6) a: = 4 3 b: = + 3 c: = d: = ounces a: = 8 3 b: = a: 2 b: = 3 2 c: Answer will each.c: = 3 d: No solution CPM Training Program. All rights reserved. Core Connections, Course 3 25 Lesson Reflect (flip) over -ais, slide 7 spaces to the right or slide 7 spaces right, reflect on -ais a: = 2 +1 b: -intercept = (0.5, 0), -intercept = (0.1) c: d: = B. Response will be Clean is correct because 9(5) + 4) = 9 and 1 + 2 (5) = a: After 4 hours b: 10 Lesson See graph to the right. Triangle D is an answer to problems See graph in problems (5, 4), (7, 6), and (6, 7) C A D (2, 1) B Yes, on average she will make about 450 baskets a: = 5 +1, 51 plates Figure 0 Figure a: In 9.6 weeks, they will both weigh pounds. b: Answers will each. Selected Answers 2013 CPM Educational Program. All rights reserved. 25 26 Lesson a: No, her form translated 10 units to the right, and 6 (4) = 10: b: 8 5 ; It moved 10 units right and 3 units up. a: = c: in: right 2, down 7; ii: right 7, down 6; iii: left 4, down 7; iv: right 4, up a: (2, 3), and (3, 1) b: See graph. (1.1), (5.1), and (6, 3) c: Yes, because translations and reflections do not change the shape or on a form a: = 4 3 b: = + 3 c: = d: = = s represent the length of Side #1, s + s + 2s 1 = 31, Page #1 = Page #2 = 8 cm, Side #3 = = 15 cm B A T a: or b: 0,12 c: d: = , Figure 0 = 3 b: 2, Figure 0 = 3 c: 3, Figure 0 = 14 d: 5, Figure 0 = 3 Lesson a: Slide the triangle to the right 2 units and down 3 units. b: (1,0), (1, 2), and (0,0) c: (3,1), (3, 3),(2, 3) See table and graph to the right a = 3, b = No. When = 12, = 128, so it would have 128 tiles 2.5, = 30 minutes a: = b: Yes. It can be written in form = m + b.c: growth = 2, -intercept = (0,2 3) CPM Educational Program. All rights reserved. Core Connections, Course 3 27 Lesson a: (6, 4), (2, 4), and (4, 4) b: (1, 3) c: Its sides are twice as long and it rotated (2) 2 3 (2) +1 = She combined terms from opposite sides of the equation. Instead, row 4 should read 2 = 14, so = 7 is the solution This claim is false because Distributive Propert says that a (b + c) = ab + ac IN-- 4; OUT-- 19, 11, 32, 298, 3 2 Lesson ( ), (1.12), (4, 8), 8 The shapes are not equal because the corresponding angles are no longer equal to a: $18 b: She sold 19 brownies a: = b: Figure a: $15.25 b: $ hours = $ Mr. The correct solution is = a: Median = 80%. Maximum = 100%, minimum = 55% b: It cannot be determined from a nest plot. c: 16; 8 d: It can not be determined from a nest plot. Selected Answers 2013 CPM Educational Program. All rights reserved. 27 28 Lesson numbers A and F, B and D, and G and I are similar $ = a: None, b: One (t = 3) c: One (m = 0) d: Infinite, = a: 12 5 c: d: or Reflection b: Rotation c: Rotation d: Reflection Lesson a: Slide the triangle to left 2 units and up two units. b: (3, 3), (2, 2), (3, 1) c: (1, 1), (0, 0), (1, 1) a: Yes b: Yes c: The lines coincide a: = 2,2 b: = 6 c: = 10.5 d: = a: 25% b: 50% c: No, because the individual data points are not given a: = b: = CPM Educational Program. All rights reserved. Core Connections, Course 3 29 Lesson , = 24mm, = 10mm a: Share b 1 3 will undo multiplying b 1 3 ; then multipligang b 1 3 smaller, divide must make the shape larger. b: 30 3 = 10 and = 10 make the shape one: See graph on the right. b: No solution. c: There is no solution to the sstem of equations because the two lines do not cut a: 47 inch b: 43nches and 49 inch c: (3.12), (2.10), 0, 6 (2, 2), (4, 2), 6, 6 a: Multipl b negative 2 and then add 6. b: Answers will each. ( ) c: Letter C. (b) (a) Selected Answers 2013 CPM Educational Program. All rights reserved. 29 30 Lesson a: 6 2 = 12 b: = a: 36 m, 12 m b: 54 sqm, 6 sqm c: Circumference is also 1 3 so long Part (a) is made correctl because it has both equall distributed number line and living plot. Part (b) has an equall row of rows of rows of rows of row strokes numbered incorrectl a: Parallelogram B A C D b: A (3, 1), B (1, 3), C (4, 2), and D stasis at 2, 0 c: (3), (3, 9), (12, 6), (6, 0) ( ) = 8 18, = 32 32 = a: They are congruent. b: They are similar to a: = b: Figure # # of Tiles # of tiles Figure # c: = 3 +1 d: = CPM Training Program. All rights reserved. Core Connections, Course 3 43 Lesson (Da 1) a: b2: Correct c: d: Power Decimal Fraction a: The 1 moves one decimal place to that of 10 Form Form right, and the denominator of = c: = 3 Ride Bike 12.5% a: No solution. b: Infinite solutions because the lines coincide. Walk 18.75% a: A trapezoid b: They are right angles. c: (6, 2), (0, 5), (0.11), (6,11) Lesson a: Answers will be.b: See graph. The answers will be a: ii: When latitude increases, the temperature drops (or when the temperature increases, latitude drops). b: iv: All cars, regardless of weight, go about the same speed. c: iii: No relationship. d: i: People with more epensive homes tend to have more epensive cars a: 3.5 b: 1 c: 2 Price (Thousand $) Horsepower a: (10)(17) = = 170 square units b: 54 units a: 16 b: 2 c: Undefined d: a: 18% b: No. The data are not numerical; she could have made a stack graph. c: 2925 fiction books Selected Answers 2013 CPM Educational Program. All rights reserved. 31 32 Lesson a: Negative association: as the number of hours watching TV increases, GPA decreases. b: Positive association: as age, the number of hairs increases. c: No link between hair length and shoe size a: See the sample graph on the left. Height of plant (cm) Depth of seed in pot (cm) a: Median = 731, IQR = = 277 b: Answers will each.c: Answers around 7 or 8 cm are reasonable. c: About 30 or 31 cm. If the seed is left on the surface of the dirt (0 cm deep), it is predicted that the plant will grow to about 31 cm a: = 8 15 b: a: = 3 b: = 7 10 c: d: or in an order: translation, rotation, diilation CPM Educational Program. All rights reserved. Core Connections, Course 3 33 Lesson This would be an eample of a negative association, because when the speed increases, the time it takes to run a constant distance decreases Let represent the price of the first painting, = 2000, The most epensive painting sold for $ 10, a: Range is 68. Both 39 and 107 appear to be outliers. b: Median = 70, upper quartile = 79.5, lower quartile = a: or 3 5 b: = 9 meters, = 30 meters a: = and = 172 4, represents weeks, represents total mone a: b: Will have the same amount between weeks 15 and 16. d: or or b: 5 24 c: 3 6 or 1 2 th: f: Lesson a: Line A because it increases the most quickl. b: 5 c: They are equal A, D, C B A line that is flat or does not go up a: 30 % b: Water park (30%) and Amusement Park (29%) c: Answers will be Let s = # students, a: = # adults, s = 3a 150, s + a = 1778, 1296 students = 15, = 9 Selected Answers 2013 CPM Educational Program. All rights reserved. 33 34 Lesson slope = a: 3 5 b: 6 5 c: 2 2 = = 5,5 b: = 42 c: = 24 d: = = 4,5, = 1,5. it represents the of hours she swims. She will swim for 1.5 hours and pla volleball for 3 hours a: line a: = 2 2, line b: = It would be between lines a and b, because its intercept is on (0,1). c: It would travel downwardbut would have the same -listen as the line from part (b) a: = 5 b: = 2 c: = 0 d: = 38 Lesson a: > b: = c: < Chart 1: positive, non-linear association, with an outlier, Chart 2: positive linear association with no outliers The slope of 4 3 is correct Because the line decreases and forever four units that the line moves to the right , it also goes down 3 units a: = 12 b: w = 0 c: = 1 d: No solution a: 0 pounds b: Graphene should show a line with positive slope. Devices marked on the aerna should be in pounds (vertical ais) and feet (horizontal ais). c: 4 3 pounds d: 9 feet a: 4896 sq. units b: sq. units c: 900 sq. units d: 336 sqm units CPM Training Program. All rights reserved. Core Connections, Course 3 35 Lesson a: 6.75 miles b: = Neither, 10 8 = A(2, 3), B(1, 7), C(3, 6), D(2, 3) a: b: c: d: a: 4 3 b: (0,5) c: = a: Let w represent the width of the lawn, 2w + 2(2w + 5) = 250. b: w = 40, the width of the lawn is 40 meters, and the length of the lawn is 85 feet. c: The lawn area is 3,400 square meters. Lesson Answers will be see graph to the right. : (12, 0) and : (0, 6) See graphene on the far right earbooks a: P = 40.3 ds., A = 77 sq. Ds. b: P = 60 ft., A = 150 sq. ft See graph to the right. a: It does not cut, because they are parallel. b: No solution. c: No solution. Parallel lines do not cut. Selected Answers 2013 CPM Educational Program. All rights reserved. Lesson a: Moderate positive linear association with no outliers. b: If -intercept was drawn at origin or negative, it does not make sense; a child of zero ears should have some positive height a: A nest plot shows the center and dissemination of single-variable numerical data nicel. b: A scatterplot will show the relationship between age and mpg. c: See graph to the right. d: Weak negative linear association. e: = f: About 31 mpg. g: A slope of negative 0.7 means that for every additional ear old a car is, we epect it to go 0.7 less miles per gallon; -intercept of 36 means that a new car is predicted to go 36 mpg mpa s: Liz saves at a higher rate because her line is increasing faster (is steeper). Average Miles per Gallon Age of Car (ears) b: Liz: 60 2 or 30 1, Jeffre: The slope tells ou at what rate each saves one: = 2 b: = 15 c: = 2 d: No solution CPM Training Program. All rights reserved. Core Connections, Course 3 37 Lesson a: Number of Highl fuel-efficient trucks purchased: 834 regular trucks purchased: low fuel prices: High fuel prices: Fuel prices Number of Highl fuel-efficient trucks purchased number of Ordinar cars and regular trucks bought b: It does not seem to be an association; onl about 1% of cars are fuel efficient, regardless of prices are high or low. Number of Highl fuel-efficient trucks purchased number of Ordina cars and regular trucks purchased See table below; the independent variable is the sleep hours; there is an association; when the number of hours of sleep increases, a higher percentage of students remember all ten objects. Remember all 10 items? Yes No Less than 7 hours of sleep 3.9% 96.1% 7-9 hours of sleep 9.2% 90.8% At least 10 hours of sleep 20.0% 80.0% a: Moderate negative association. b: (100, 140) Yes, 1500 wph = 25 words per minute; he can tet 125 words in 5 minutes a: (11, 18) b: (16, 21) a: = 15 4 b: = $ S 1.74 c: = 5 d: = 12, = 16 low fuel prices high fuel prices ,929 422255 low fuel prices high fuel prices 1.1% 1.0% 98.9% 99.0% Selected Answers 2013 CPM Educational Program. All rights reserved. 37 38 Lesson a: P = $500, I = $37.50, r = 2.5% (0.025), t = 3 ears b: 1 = 200(0.04)(5) = $ If she takes the loan, she will need to pa back $372; she saves $22 b waiting % a: 4 (+ 2) b: 5 (9 +) c: 7 (3) a: # OF STUDENTS Hours Spent Studing Weekly Hours of After-School Activities Per Week Less than 4 hours of sleep or More hours Less than 5 Hours = 60% 40% Five or more hours a: = m 4 (alt. int. s =) or m 4 = 8 (corr. s =), then st., s + 43, et a: 20 7 b: c: d: 4 3 or See graph on the right. New vertices: 0, 2 All pairs of corresponding pages are parallel. ( ), (6, 4), and (4, 8). Selected Answers 2013 CPM Educational Program. All rights reserved. 39 40 Lesson a: 1 corresponds to 100%, or the full amount in the account, and r represents the interest rate. It is added so that ou calculate percentage based on previous balance, not just principal. b: $a: 16 b: 729 c: d: 16th: 729 f: g: Answers will be Eponent Form: 4 3, 5 3, 8 3 Factored Form: 3 3 3; ; Standard form: 27; 48; 216; 512; Let represent Carrie's number, + (+ 9) + (+ 6) = 207, = 64, + 6 = 70, Fran's number is See graph on the right. (2, 5), (2, 1), (5, 0) $, non-linear growth A C B CPM Training Program. All rights reserved. Core Connections, Course 3 41 Lesson a: 9c: = (6) Products: ; 6,893,000; 58,600; See graph on the right. (4.4), (7, 4), (6, 7) Yes, there is a strong association. If the kelp speed is low a larger proportion of small small lf kelp speed is high, larger crabs grow $ is greater because the power of 10 is greater a: b: 7776 b: 8 27 c: 625 d: Both strategies will work eventuall, but adding five to both sides will isolate the term. b: = a: = 3 2 b: Answer will where This parabola should point downwards and pass through (0,0) and (2,0); verten is on (1, 2). Graphene is non-linear. Selected Answers 2013 CPM Educational Program. All rights reserved. 41 42 Lesson a: 3 b: = 81 4 c: 3 8 (1 3)2 = 729 d: a: Negative b: 6 hours a: The solution is incorrect. b: Solution is correct See graph on the right. a: (1, 2), (4.1), (1, 2) b: (4, 2), (2, 4), (4, 6) c: (2, 1), (1, 2), (2, 3) a: = b: = a: > b: >c: = d: < e: < f: < CPM Educational Program. All rights reserved. Core Connections, Course 3 43 Lesson (Da 1) a: b2: Yes, $ b: Type 1 in the numerator and 1 followed b 12 zeros in the denominator. c: Graphene would be a curve starting at $6439 and curves upward a: 6 b: 17 c: 4.5 d: 3 rd: 13 f: a: = 2 b: = 5.75 c: = 5.2 d: = a: (2, 7) b: 1 (2, 4) Selected Answers 2013 CPM Educational Program. All rights reserved. 43 44 Lesson (Da 2) a: b: c: a: = 3 5 b: 2 10 = c: 1 4 d: a: 0 or b: (c: or 3 35 f: or a: Against dietary advice. b: See table below. c: There seems to be no association. Onl about 35% of athletes eat a balanced breakfast, whether they received the nutritional advice or not. # OF ATHLETES Regularl Ate a balanced breakfast often do not eat a balanced breakfast a: (1, 4) b: (1, 3) c: The new shape is the same size as the original. If rotated 180 or reflected on -ais and -ais a: = After 23rd da. Received Nutrition Advice was not received Nutrition Advice 66% 65% Lesson a: b: c: a: 7 b: 3 c: a: Positive b: No c: Positive d: Negative a: The image would be 32 inches tall. b: The image would be 2.25 inches wide a: $40 b: $55, draw a trend line and read the point from -ais. c: $75, etend trend line a: 4.5 pounds b: 40 dozen CPM Training Programs. All rights reserved. Core Connections, Course 3 45 Lesson a: 8 b: 1 c: 2 d: a: 7 b: = c: 2 d: = See table on the right. a: = b: 2 3 c: Linear growth, it has a constant growth rate or slope a: 20 8 = 2.5 b: s = 14, t = 40 c: Answers come every a: 100 b: 43 c: 47 d: = 148 ; f = 32 e: Let b = bank balance, m = # months, b = 3m + 210, b = 4.5m The girls will have the same amount of mone in months a: = Prices: $0.40; $1; $2.40; $3 b: See chart on the right. c: Yes, because the data makes a straight line through (0, 0). d: The slope is 2 10 or 0.2. The slope is the same as the price per ounce ($0.20 per ounce). e: = 0.2 Price ($) Amount of Taff (oz) a: = 9 b: = 14 3 c: = 13 5 or 2,6 d: a: b: c: a: 2, (2, 0), (1, 2) b: (4, 1), (4, 3), (1, 1) c: (1, 4), (3, 4), (1, 1) d: (8, 2), (6, 2) Selected Answers 2013 CPM Educational Program. All rights reserved. 45 46 Lesson a: m = 2 63º, lines, alt. Int. s =, m 3 = 117, suppl. s.b: 3 18º = 74º, = 30,67º, lines, corr. s =: c: 3 9º = + 25º, lines, alt. Int. s =, = 17º; m 2 = 3(17º) 9º = 42º, substitution Responses will be.m 1 = 53º, m 2 = 72º, m 3 = 55º, m 4 = 127º, m 6 = 55º a: Yes, positive b: Yes c: No d: The short people ma be oung and have not et learned to spell ver well = 61.5, = 82 miles Test Score (%) p.m a: Yes b: No c: No d: Yes e: No f: Yes Height (inches) Lesson a: 55, right b: 60, acute a: m = 5 (alt. int. s =) or m 4 = 8 (corr. s =), then st., m 6 = 119 or m 4 + m 6 = 180 degrees (same side interior s suppl.). b: corr. and vert. s or vert. s, alt. Int. s, vert. s, m 8 = 48 c: corr. s =, suppl., m 8 = See graph on the right See graph on the right. The data show a negative association a: 270 sq.b: 30 sq. ds a: = b: = Avg. Miles per Gallon Age of Car (ears) CPM Training Program. All rights reserved. Core Connections, Course 3 47 Lesson a: c is parallel to d, alt. int. s = bth is parallel to f, corr. s = c: No d: c is parallel to d, vert s =, then corr. s = e: c is parallel to d, suppl. same page int. s = a: = b: 2 3 c: Linear growth a: 49 st, s = 41, 180 or d: Selected a: 48 5 = a: 7 9 b: 2 c: = 2 d: = a: $50.40 b: $a: See table and graph below. Week Mone b: See table below; the answer is 180 = The lines are parallel. Selected Answers 2013 CPM Educational Program. All rights reserved. 47 48 Lesson a: 15 3 b: 7.7 c: = Samplegraph: a: b: median = 61, first quartile = 48, third quartile = a: (2, 3) b: (2, 3) c: Yes: = 60, acute b: = 24, blunt a: Bo plot b: Scatterplot c: See diagram. d: Strong negative association. e: See graph. f: $17,000 g: Inclination of 3 means the car loses $3,000 in value each ear, -intercept of 35 means the cost when new onewas $35,000. Listed Cost (in 1000s) Age of Car (Ears) CPM Training Program. All rights reserved. Core Connections, Course 3 49 Lesson a: Yes, there are two equal angles, the right angle and the 30-angle. b: c: m = 2 a: 8 3 d: Small = 27 sq. cm, large = 192 sq. cm Yes, a blunt triangle will be formed because 36 > : 1; 0 : 14 a: = 3 2 b: = shortest side length, (10 + 2) = 142. The sides are 22 cm, 54 cm, and 66 cm Cisco is incorrect. She must also be sure that the graph makes a straight line or that the table would have corresponding ratios; graph off = 2 does not make a straight line a: = 11,5 b: = 6 c: = Obtuse. 6, 20, and 28 units a: Intersect, slopes are different b: Parallel, slopes are equal c: Parallel, is equal d: d: equations are equivalent a: Linear growth, graphene is a line with constant inclination. b: The graph shows the distance from home at different times. The answers will .c: 9 miles d: The person travels 2.5 miles per hour awa from home. e: = He did not match up the corresponding pages Carbon weighs more. An eponent of 22 indicates that the decimal places were moved 22 places to the left (versus 27 for the drug) a: $b: No; $ Selected Responses 2013 CPM Training Program. All rights reserved. 49 50 Lesson rectangles (1 b 24, 2 b 12, 3 b 8 and 4 b 6). No, , 15, and 17 because = = = 9 rides a: 2 3 b: 2 c: (0, 3) a: = 30 b: = 22 c: = a: b: = 136 = = C EducationalPM Program. All rights reserved. Core Connections, Course 3 51 Lesson a: 15 cm b: 121 cm c: 20 m d: ft a: 6 b: 8.1 c: 9.2 d: a: 2 b: (0.5) a: b: c: d: Table b is not a function because there are two different outputs for when = He is correct, because 2(2) + 4 = 0 and 2 2 = a: 17.5 feet b: 175 sqm ft.c: = w 50, w = a: 8, right angle is 90 b: = 20, straight angle is 180 d: = 60, the same reason as (c) SA = 34 square units, V = 10 cubic units a: 64π = cm 2 b: 900π = cm a: b: c: Selected Answers 2013 CPM Educational Program. All rights reserved. 51 52 Lesson a: units. In (b) units. In c: 5 units. R cup P = 34 m, A = 74 sqm a: b: a: 38 6 b 4 c: 9m 3 n 2 d: 1 e: m4 n 2 f: 3a4 b a: 0 b: 32 c: a: rational, 6 1 b: rational, c: irrational a: (1, 1) b: (36, 16) a: (0, 6) b: See table and graph at right lines ( ) ( ) = 36 , 700 ; 4700 participated at Thursda, 10,200 at Frida, 9400 at Saturda, and 12,400 at sunda CPM Educational Program. All rights reserved. Core Connections, Course 3 53 Lesson a: Side lengths of 3, 4, and 5, circumference of km b: Right triangle. The legs are perpendicular because in line with the coordinate grid a: 7 10 b: 7 9 c: = 3 20 d: = a: 28 5 = b: 100 c: 10 d: 7 12 f: g: h: a: b: 2 3 c: 1 4 or a: non-linear b: linear c: non-linear lesson gauges, etc. a: = 4,5 b: = 6,4 c: = a: = 3 5 b: 2 10 = c: 1 4 d: a: = + 2 b: ft Selected Answers 2013 CPM Educational Program. All rights reserved. 53 54 Lesson a: The tree is a little over 8 meters high. b: The tree will not hit the fence a: Vertical angles. Congruent = 5 57, = 31 b: Straight angular pair. Supplements = 180, = The lines are parallel, so as not to cut; therefore, there is no solution a: 24 b: 7 24 or approimatel 29% c: a: or 24 7 b: 27 4 or c: 18 5 or Lesson a: 12, rational b: 3.78, irrational c: 0.5, rational a: 5 inches b: 150 sq. inches Triangle = = 38 m 2, rectangle = (21.25)(7,6) = m 2, total surface area = m 2, hpotenuse of triangle m , so perimeter = m a: = b: 8 11 c: = 7 40 d: Possible equation: 6 p + 28 = 80, where p = packs of plants, p = 8 2 3, so 9 packs are needed a: = b: 14 c: = 114 d: = = CPM Educational Program. All Reserved. Core Relations, Course 3 55 Lesson a: A = 25π 25π cm 2, V = cm 3 b: A = π = cm 2, V = cm 3 ; No, the shape of the base does not matter, only its area a: 12, rational b: , irrational c: 8, rational a: = 5 6 b: a 3 b c: 83 = 81 1 d: a: 6 b: 8 c: 24 d: 24 a: 0 f: $3000 b: $ c: The simple interest account. Lesson V = 36rt 8 3 = 96π = in cubic feet. Volume of the prism = 3 times the volume of the clinder Tables (b) is proportional, because it is onlen one that could contain (0,0) and gives one Giant One mm a: 16 units b: (1,5), (5, 3), and (1,0) c: It is still 16 units a: See board far right, the rule is undefined for = 1. b: See graph to the right. c: Non-linear growth does not increase the values b a constant amount. d: Yes, there is onl one output for each input Selected Answers 2013 CPM Educational Program. All rights reserved. 55 56 Lesson a: π cm3 b: 4,5π feet π r3 = , r = 3 ft a: 1260 m 3 b: 1584 cm a and b: See table and graph on the right. c: Growth is non-linear and the rule is a function. The chart shows that the rule is not a line and there is an output for each input a: See the graph at the bottom. b: During the first 3 hours, the graph is linear and increases. The net segment is constant, or has a slope of 0 while resting. The last 2-hour segment is linear and decreases a: 24 cups b: 40 cups c: c= 4t a: = = 128 b: + 88 = 180, = 98, corresponding to s =, st.. Distance (miles from Sarah house) Time (hours) CPM Training Program. All rights reserved. Core Connections, Course 3 57 Lesson π in or approimatel units, the perimeter is irrational because decimal does not repeat or finish a: 25 6 b: 2 3ab c: 6m 4 n a: Can not determine whether similar b: Similar to b AA, = 7, = in Example graphs: a: b: Selected Answers 2013 CPM Educational Program. All rights reserved. 57 57