

Oahu Mathematics League
Meet III
November 23, 2013

Answers for Meet III

Event 1: ALGEBRA II — Exponents and Radicals

- A. Hawaii Baptist $\frac{14}{9}$
B. Kaiser 1, 9
C. Kaiser $\frac{1}{8}$

Event 2: GEOMETRY — Right Triangles, Pythagorean Theorem, and Special Right Triangles

- A. Hawaii Baptist $10 - 5\sqrt{3}$
B. Sacred Hearts $8\sqrt{3}$
C. Waianae $8 + 8\sqrt{2}$

Event 3: ALGEBRA I — Age, Motion, and Number Problems

- A. Kaiser 8
B. Waianae -2 and 0, 30 and 32
C. Hawaii Baptist 2000 mph

Event 4: TRIGONOMETRY — Inverse Functions

- A. Waianae $\frac{\sqrt{7}}{4}$
B. Kaiser $\frac{b^2 - a^2}{a^2 + b^2}$
C. Sacred Hearts $5\sqrt{2}$

Event 5: ALGEBRA I — Operations with Polynomials

- A. Hawaii Baptist $4x^3 - 2x^2 - 6x$
B. Waianae $p^k + q^j$
C. Kaiser 32

Event 6: ALGEBRA II — Relations and Functions

- A. Kaiser 11
B. Waianae $\frac{7x - 3}{2}$
C. Sacred Hearts $\frac{7}{3}$

Team Question

- Hawaii Baptist 2501

Oahu Mathematics League
Meet III
November 17, 2012

Answers for Meet III

Event 1: ALGEBRA II — Exponents and Radicals

- A. Iolani $\frac{17\sqrt[3]{2}}{8}$
B. Hanalani $4 + \sqrt{10}$
C. McKinley $-2 + \sqrt{7}$

Event 2: GEOMETRY — Right Triangles, Pythagorean Theorem, and Special Right Triangles

- A. Maui 50
B. Maui 7
C. Hanalani 8

Event 3: ALGEBRA I — Age, Motion, and Number Problems

- A. Maui Jeri is 35 years old, Amber is 19 years old
B. Hanalani 17
C. Iolani 2 or 3

Event 4: TRIGONOMETRY — Inverse Functions including Triangles

- A. Iolani 120
B. Maui $\frac{3\sqrt{10}}{10}$
C. McKinley $\frac{\sqrt{5}}{5}$

Event 5: ALGEBRA I — Operations with Polynomials

- A. Hanalani $6x^2y + 2y^3$
B. Maui $12p^2 - 21pq - 20q^2$
C. Iolani $A = 4, B = 3$

Event 6: ALGEBRA II — Relations and Functions (No Trigonometry)

- A. McKinley $f(x) = 4x - 1$
B. Iolani $a = 5, b = 0, c = -9$
C. Hanalani $-\frac{20}{21}$

Team Question

- McKinley 37081, 37091

Oahu Mathematics League
 Meet III
 November 19, 2011

Answers for Meet III

Event 1: ALGEBRA II — Exponents and Radicals

- A. Mid-Pac $9x^6y^8$
- B. HBA 5^6
- C. HBA $\frac{1}{16}$

Event 2: GEOMETRY — Right Triangles, Pythagorean Theorem, and Special Right Triangles

- A. HBA $12\sqrt{3}$
- B. Campbell 32
- C. Campbell $1536\sqrt{3}$

Event 3: ALGEBRA I — Age, Motion, and Number Problems

- A. HBA 15 years old
- B. HBA 56
- C. HBA 12 miles per hour

Event 4: TRIGONOMETRY — Inverse Functions including Triangles

- A. Mid-Pac $\frac{1}{9}$
- B. HBA $\sqrt{2}$
- C. Mid-Pac 1

Event 5: ALGEBRA I — Operations with Polynomials

- A. HBA $14x^4 - 15x^3 - 12x - 15$
- B. HBA -11
- C. Campbell 25

Event 6: ALGEBRA II — Relations and Functions

- A. Mid-Pac $\frac{60}{77}$
- B. Campbell $(-3, 5)$
- C. HBA $-24 \leq y \leq 1$

Team Question

Mid-Pac

¹ 1	² 5	2	1					³ 2	⁴ 7
⁵ 2	0							⁶ 6	4 8
⁷ 1	3			⁸ 3	⁹ 5	¹⁰ 3	3		1
				¹¹ 4	9				
		¹² 1	¹³ 3	8				¹⁴ 9	¹⁵ 8 1
¹⁶ 2	5	1					¹⁷ 1	9	2
					¹⁸ 1	¹⁹ 8			
²⁰ 3				²¹ 2	0	1	2		²² 1 ²³ 2
²⁴ 4	²⁵ 4	3							²⁶ 6 0
²⁷ 3	6						²⁸ 2	4	0 0

Oahu Mathematics League
Meet III
November 20, 2010

Moanalua

Answers for Meet III

Event 1: ALGEBRA II — Exponents and Radicals

- A. Radford $-\frac{4}{15}$
 B. St. Louis (16, 8)
 C. Radford 5

Event 2: GEOMETRY — Right Triangles, Pythagorean Theorem, Special Right Triangles

- A. Roosevelt $\frac{15\sqrt{3}}{7}$
 B. Kalani $\frac{34\sqrt{34}}{9}$
 C. St. Louis $\frac{\sqrt{337}}{5}$

Event 3: ALGEBRA I — Age, Motion, and Number Problems

- A. Kalani Emily: 12 Richard: 5
 B. Roosevelt 27
 C. Kalani $\frac{4}{7}$ km/hr

Event 4: TRIGONOMETRY — Inverse Functions

- A. Kalani $-\frac{\pi}{3}$
 B. Radford $\sqrt{2}$
 C. St. Louis $-\frac{1}{2}$

Event 5: ALGEBRA I — Operations with Polynomials

- A. St. Louis $-10x - 30$
 B. Radford $x - 3, x - 2$ or $(x - 3), (x - 2)$
 C. Roosevelt $12x^4 + 41x^3 + 29x^2 + 24x + 37$

Event 6: ALGEBRA II — Relations and Functions

- A. St. Louis $\frac{3}{2}$
 B. Kalani $g^{-1}(x) = 2x + \frac{4}{3}$
 C. Radford 69

Team Question

- Kalani 476 inches

12 Kahala

Oahu Mathematics League

Meet III

November 21, 2009

Answers for Meet III

Event 1: ALGEBRA II - Exponents and Radicals

A. Farrington 9

B. Farrington $\frac{1}{2}$

C. Pearl City $\left(\frac{2}{3}\right)^{\frac{11}{3}}$ OR $\frac{8\sqrt[3]{12}}{81}$

Event 2: GEOMETRY - Right Triangles, the Pythagorean Theorem, and Special Right Triangles

A. Pearl City $\frac{40\sqrt{3}}{3}$

B. Punahou $2\sqrt{3} + 2\sqrt{6}$

C. Pearl City $41 + 9\sqrt{2}$ (meters)

Event 3: ALGEBRA I - Age, Motion, and Number Problems

A. Farrington 5

B. Punahou 10:30 AM

C. Farrington 5:30 PM OR 5:30

Event 4: TRIGONOMETRY - Inverse Functions

A. Punahou $-\frac{\pi}{14}$

B. St. Andrew's -3

C. Farrington $\frac{1}{7}$

Event 5: ALGEBRA I - Operations with Polynomials

A. Punahou $x^{2a} + 2x^{3a} + x^{4a}$

B. Pearl City $-160x$

C. Farrington $5x - 1$

Event 6: ALGEBRA II - Relations and Functions

A. St. Andrew's domain: $(-\infty, -2) \cup (2, \infty)$ OR
range: $(1, \infty)$

$\{x: x < -2 \text{ or } x > 2\}$
 $\{y: y > 1\}$

B. Punahou $\frac{9}{2}$ or 4.5

C. Farrington $\{(0, 1), (2, 0), (3, 3)\}$

Team Question

Farrington 32

Oahu Mathematics League

Meet 3

December 13, 2008

Answers for Meet 3

Event 1: ALGEBRA II — Exponents and Radicals

A. Kamehameha $\frac{3-\sqrt{3}}{2}$

B. Aiea $\frac{\sqrt{3}}{7}$

C. Aiea 4

Event 2: GEOMETRY — Right Triangles, the Pythagorean Theorem, and Special Right Triangles

A. Kamehameha $2\sqrt{10}$

B. Castle $2 + 3\sqrt{2} + \sqrt{6}$

C. Aiea $x = 6, y = 2\sqrt{30}$

Event 3: ALGEBRA I — Age, Motion, and Number Problems

A. Castle 66 years

B. Kamehameha 40 and 45

C. Castle 20 minutes

Event 4: TRIGONOMETRY — Inverse Functions

A. Kamehameha $\frac{\pi}{6}$

B. Aiea 0

C. Aiea $\frac{24}{7}$ or $3\frac{3}{7}$

Event 5: ALGEBRA I — Operations with Polynomials

A. Kamehameha $x^3 + 2x^2 - 22x - 6$

B. Castle $n^{2x+y} - m^{x+2y}$

C. Castle 18

Event 6: ALGEBRA II — Relations and Functions (No Trigonometry)

A. Sacred Hearts $\{(2, 1), (5, -3), (-7, 5)\}$

B. Sacred Hearts Domain: $\{x : x \leq -2 \text{ or } x \geq 2\}$ Range: $\{y : y \leq 1\}$

C. Aiea $\frac{2}{7}$

Team Question

Sacred Hearts 1458

Answers for Meet 3Event 1: Algebra II – Exponents and Radicals

- A. Radford $\frac{9}{2}$ or $4\frac{1}{2}$
- B. Radford 2, 6
- C. Mililani $\frac{xy}{x^2 - y^2}$ or $\frac{xy}{(x+y)(x-y)}$

Event 2: GEOMETRY – Right Triangles, Pythagorean Theorem, and Special Right Triangles

- A. Radford $6\sqrt{13}$
- B. Mililani $\frac{25}{2}$ or $12\frac{1}{2}$ or 12.5
- C. Mililani $325\sqrt{3}$

Event 3: ALGEBRA I – Age, Motion, and Numbers Problems

- A. Mililani ± 4
- B. Radford 21
- C. Radford 72

Event 4: TRIGONOMETRY – Inverse Functions

- A. Mililani 0
- B. Mililani $\frac{\sqrt{3}}{2}$
- C. Radford $\frac{60\sqrt{3} - 24}{71}$

Event 5: ALGEBRA I – Operations with Polynomials

- A. Mililani $4m + 4a - 2t + 4h$
- B. Radford $125m^{3y} - 90m^{2y}n^x + 10m^y n^{2x} - 8n^{3x}$
- C. Radford $\frac{43}{468}$

Event 6: ALGEBRA II – Relations and Functions (No Trigonometry)

- A. Mililani $\{(3,8), (5,-1), (8,-6)\}$
- B. Radford $11 - 5m$ or $-5m + 11$
- C. Radford $\frac{3x+5}{22x+4}$

Team Question

- Radford $\frac{28\pi}{3}$

Oahu Mathematics League

Meet 3

November 18, 2006

Answers for Meet 3

Event 1: Algebra II – Exponents and Radicals

A. Punahou $125x^{18}$

B. Aiea $\frac{3}{2}$ or $1\frac{1}{2}$ or 1.5

C. Maui 6

Event 2: GEOMETRY – Right Triangles, the Pythagorean Theorem, and Special Right Triangles

A. Maui 1:3 or $\frac{1}{3}$

B. Aiea $\frac{20\sqrt{6}}{3}$

C. Kamehameha $\frac{4\sqrt{17}}{3}$

Event 3: ALGEBRA I – Age, Motion, and Number Problems

A. Maui 26, 28, 30

B. University Lab 27

C. Kamehameha $\frac{1683}{20}$ or $84\frac{3}{20}$ or 84.15km

Event 4: TRIGONOMETRY – Inverse Functions

A. Aiea $\sqrt{2}$

B. Aiea $\frac{-\sqrt{3}}{2}$

C. Punahou $\frac{121+4\sqrt{30}}{144}$

Event 5: GEOMETRY – Operations with Polynomials

A. Kamehameha $2h^2 - 21h + 16$

B. Punahou $\frac{3}{2}$ or $1\frac{1}{2}$ or 1.5

C. Aiea 28

Event 6: Algebra II – Relations and Functions (No Trigonometry)

A. Punahou $\{x: x < -2 \text{ or } x \geq 2\}$

B. University Lab $-6a + 8$

C. Kamehameha 5

Team Question

Punahou 441

Oahu Mathematics League

Meet 3

December 10, 2005

Answers for Meet 3

Event 1: Algebra II – Exponents and Radicals

- A. Radford $\frac{1}{2}$
- B. St. Andrew's $\frac{1}{81}$
- C. St. Andrew's $-\frac{25}{3}$ or $-8\frac{1}{3}$

Event 2: Geometry – Right Triangles, Pythagorean Theorem, and Special Right Triangles

- A. Radford $15 + 5\sqrt{3}$
- B. Waipahu $3\sqrt{2}$
- C. St. Andrew's $12 + 36\sqrt{3}$

Event 3: Algebra I – Age, Motion, and Number Problems

- A. Radford 6 years old
- B. St. Andrew's 11, 13, 15
- C. Waipahu January 2, 12:40 PM

Event 4: Trigonometry – Inverse Functions

- A. Moanalua $\frac{1}{2}$
- B. Kalaheo $0, \pm\frac{\sqrt{3}}{2}$
- C. Waipahu $\frac{1}{2}$

Event 5: Algebra I – Operations with Polynomials

- A. Radford $3n - 5$
- B. Waipahu $256x^2 + 512x + 256$ or $256(x+1)^2$ or $256(x+1)(x+1)$
- C. Radford -30

Event 6: Algebra II – Relations and Functions (no trig)

- A. Kalaheo 1
- B. St. Andrew's $\frac{4-2a}{5a+1}$
- C. Waipahu Domain: $\left\{\frac{5}{2}, \frac{7}{2}, \frac{9}{2}\right\}$, Range: $\{0, 1\}$

Team Question

Radford 49

Oahu Mathematics League

Meet 3

December 11, 2004

Answers for Meet 3

Event 1: Algebra II – Exponents and Radicals

- A. Punahou $\frac{16x^{10}}{81y^5}$
- B. Roosevelt 4
- C. Kailua $\frac{2\sqrt{x} - 2\sqrt{2} + 4\sqrt{x-2}}{x-2}$

Event 2: Geometry – Right Triangles, Pythagorean Theorem, and Special Right Triangles

- A. Maui $\sqrt{2}$
- B. Punahou $10 + 10\sqrt{2}$
- C. Roosevelt $\frac{6\sqrt{5}}{5}$ meters

Event 3: Algebra I – Age, Motion, and Number Problems

- A. Maui 13
- B. Punahou Frank: 18 yr., Marilyn: 27 yr.
- C. Roosevelt 6:34 a.m.

Event 4: Trigonometry – Inverse Functions

- A. Punahou $\frac{3}{5}$
- B. Kailua $\frac{336}{625}$
- C. Roosevelt $\frac{3\pi}{4}$

Event 5: Algebra I – Operations with Polynomials

- A. Punahou $8x^3 - 12x^2y + 6xy^2 - y^3$
- B. Kailua $3x^3 + 8x^2 - 9x + 10$
- C. Maui $x + 6$

Event 6: Algebra II – Relations and Functions (no trig)

- A. Maui $h + 9$
- B. Kailua 27
- C. Roosevelt $\{(-1, 0), (2, 9), (4, 4), (5, 1)\}$

Team Question

Kailua Block 28 or 4U

Oahu Mathematics League

Meet 3

December 13, 2003

Answers for Meet 3

Event 1: Algebra II – Exponents and Radicals

- A. McKinley $\frac{1}{3}$
- B. Aiea $\frac{5}{2}$ or $2\frac{1}{2}$
- C. Kailua $\frac{3\sqrt{t-3} + t + 9}{t-3}$

Event 2: Geometry – Right Triangles, Pythagorean Theorem, and Special Right Triangles

- A. St. Francis 26 in.
- B. McKinley $69\frac{1}{3}$ or $\frac{208}{3}$
- C. Kailua 10

Event 3: Algebra I – Age, Motion, and Number Problems

- A. St. Francis 24 years old
- B. Kailua 2 hours
- C. McKinley 210

Event 4: Trigonometry – Inverse Functions

- A. Aiea $\frac{\pi}{3}$
- B. McKinley $\frac{-\sqrt{2} - \sqrt{6}}{4}$
- C. McKinley $-\frac{253}{204}$

Event 5: Algebra II – Relations and Functions (no trig)

- A. Kailua $4h + 11$
- B. McKinley $\frac{2x + 19}{3}$
- C. St. Francis $-\frac{1}{7}$

Event 6: Algebra I – Operations with Polynomials

- A. Aiea 4
- B. St. Francis $-x - 3$ or $-(x + 3)$
- C. Aiea $x^n - 2^n$

Team Question

- McKinley -19

Oahu Mathematics League

Meet 3

December 7, 2002

Answers for Meet 3

Event 1: Algebra II – Exponents and Radicals

- A. Radford \sqrt{x} or $x^{1/2}$
B. Punahou $\frac{x^2 - 2}{3x + 2}$
C. Kamehameha $\frac{\sqrt{5} - 1}{4}$

Event 2: Geometry – Right Triangles, Pythagorean Theorem, and Special Right Triangles

- A. Radford $13 + 8\sqrt{3}$
B. St. Louis 24
C. Punahou $6\sqrt{15} - 6\sqrt{5}$

Event 3: Algebra I – Age, Motion, and Number Problems

- A. St. Louis $-5, -4, -3$
B. Kamehameha 90 miles
C. Punahou 10 years old

Event 4: Trigonometry – Inverse Functions

- A. Kamehameha $\frac{\pi}{2}$ or 90°
B. Molokai 161
C. Punahou $\frac{1}{2}$

Event 5: Algebra II – Relations and Functions (no trig)

- A. Molokai $9 - 5\sqrt{7}$
B. Radford $35x - 27$
C. Kamehameha $\sqrt{3} \leq y \leq 2\sqrt{57}$

Event 6: Algebra I – Operations with Polynomials

- A. Molokai $2x^4 - x^3 - 9x^2 + 7x + 6$
B. St. Louis $y^{10m+7} - y^{m+13}$
C. St. Louis $x - x^{2003}$

Note: $x(1 - x^{2002})$ is not completely factored.

Team Question

Radford 42,075

Oahu Mathematics League

Meet 3

December 8, 2001

Answers for Meet 3

Event 1: Algebra II – Exponents and Radicals

- A. Hanalani -13
- B. University $675ab$
- C. Kailua $23, -17$

Event 2: Geometry – Right Triangles, Pythagorean Theorem and Special Right Triangles

- A. University $10\sqrt{11}$ in.
- B. Radford $5 + 5\sqrt{3}$
- C. Kailua $\frac{4\sqrt{5}}{5}$

Event 3: Algebra I – Age, Motion, and Number Problems

- A. Radford 13
- B. Kailua 12
- C. University 17.5 mi.

Event 4: Trigonometry – Inverse Functions

- A. Radford $\frac{-\sqrt{3}}{3}$
- B. Kailua $\frac{\pi}{4}$
- C. Radford $\frac{117}{125}$

Event 5: Algebra II – Relations and Functions (no trig)

- A. Kailua $h + 9$
- B. Radford $27x - 9$
- C. University $x^2 + 6$

Event 6: Algebra I – Operations with Polynomials

- A. Hanalani $2x^2 - 33$
- B. Kailua $x^{2+n} + 8x^n - 22$
- C. Radford $x + 5$

Team Question

University \$3,762.90

OAHU MATHEMATICS LEAGUE

Meet 3

November 18, 2000

Answers for Meet 3

Event 1: ALGEBRA II - Exponents and Radicals

- A. Hanalani $\frac{15}{14}$ or $1\frac{1}{14}$
B. Mililani 2401
C. St. Louis 5

Event 2: GEOMETRY - Right Triangles, Pythagorean Theorem and Special Right Triangles

- A. Kamehameha 144°
B. St. Louis $\frac{240}{17}$ or $14\frac{2}{17}$
C. Mililani $5\sqrt{5}$ in.

Event 3: ALGEBRA I - Age, Motion and Number Problems

- A. Kamehameha $1\frac{1}{4}$ hr. or $\frac{5}{4}$ hr. or 1.25 hr.
B. Mililani 45
C. Hanalani 5 hr.

Event 4: TRIGONOMETRY - Inverse Functions

- A. St. Louis 0
B. St. Louis $\sqrt{5} - \sqrt{6}$
C. Mililani $\frac{3\sqrt{22}}{10}$

Event 5: ALGEBRA II - Relations and Functions (no trig)

- A. Mililani $-6a^2 - a$
B. St. Louis $12x - 5$
C. Hanalani $-\frac{20}{21}$

Event 6: ALGEBRA I - Operations with Polynomials

- A. Hanalani $-x^4 + 7x^3 - 11x^2 + 8x - 4$
B. Mililani $7x^{4m} + 12x^{2m+p} - 8x^{2p}$
C. Kamehameha $2x + 11$

Team Question

Kamehameha $\frac{-1 - \sqrt{217}}{2} < x < \frac{-1 + \sqrt{217}}{2}$

Event 1

A. $\frac{2}{3}$

B. 256

C. $|y|$

Event 2

A. $2\sqrt{6} + 2\sqrt{2}$

B. $128\sqrt{2}$

C. 8

Event 3

A. 6

B. 18

C. $33\frac{2}{3}$ or $\frac{101}{3}$

Event 4

A. $\frac{17}{25}$

B. $\pm \frac{\sqrt{3}}{2}$

C. Domain $\{x \mid -1 \leq x \leq 1\}$
Range $\{y \mid y = 0\}$

Event 5

A. 3

B. $\left\{ (x, y) \mid y = \frac{x^2 + 4x + 3}{3}, x \geq -2 \right\}$

C. $7x + 6$

Event 6

A. $-x^3 + 2x^2 - 3x + 11$

B. $x + 3, x - 2$

C. -7

Team 6,561 and 390,625

Oahu Mathematics League

Meet 3

November 21, 1998

Answers for Meet 3

Event 1: Algebra II - Exponents and Radicals

- A. $\frac{1}{27}$
- B. $a^{\frac{35}{18}}$
- C. $-\frac{1}{2}$ or -0.5

Event 2: Geometry - Right Triangles, Pythagorean Theorem, and Special Right Triangles

- A. 8
- B. 36
- C. $\sqrt{13}$

Event 3: Algebra I - Age, Motion, and Number Problems

- A. 8
- B. $2\frac{1}{2}$ or 2.5
- C. 57

Event 4: Trigonometry - Inverse Functions

- A. $\frac{\sqrt{6}}{6}$
- B. $\frac{2\sqrt{30}-2}{15}$
- C. $\frac{1}{7}$

Event 5: Algebra II - Relations and Functions (No Trig)

- A. 10
- B. Domain $\{x: -2 \leq x \leq 2\}$
Range $\{y: \frac{1}{3} \leq y \leq 1\}$
- C. -3

Event 6: Algebra I - Operations with Polynomials

- A. $a^{2x+4} + 4a^{x+3} + 4a^2$
- B. 4
- C. -5

Team Question:

OAHU MATHEMATICS LEAGUE
MEET III
November 22, 1997

Event 1: Algebra II – Exponents and Radicals

- A. $\frac{18 a^7 c^5}{b^7}$
B. 32
C. $\frac{27\sqrt{2} + \sqrt{15}}{111}$ or $\frac{-27\sqrt{2} - \sqrt{15}}{-111}$

Event 2: Geometry - Right Triangles, Pythagorean Theorem and Special Right Triangles

- A. 3
B. 118
C. 4

Event 3: Algebra I – Age, Motion and Number Problems

- A. 64
B. 15
C. 4994

Event 4: Trigonometry – Inverse Functions

- A. $\frac{\pi}{6}$
B. 2
C. $-\frac{1}{2}$

Event 5: Algebra II – Relations and Functions (no trig)

- A. $g \circ f = \{ (2, 9), (3, 10), (4, 3), (9, 9) \}$
B. -1.25 or $-\frac{5}{4}$
C. $0 < y < 5$

Event 6: Algebra I – Operations with Polynomials

- A. $-63y^4 - 21y^3 - 35y^2 + 14y$
B. $(x - 1)$
 $(x - 2)$
C. $24x - 4$

Team: Julie 39 years
Mike 62 years

Oahu Mathematics League
Meet III
November 23, 1996

ANSWERS

Event 1: ALGEBRA II - Exponents and radicals

A. $\frac{2a^4}{c^3} \sqrt[3]{2b^2}$

B. $\frac{1}{3}$

C. $\frac{4x-2x^2}{x+3}$ or $\frac{-2x(x-2)}{x+3}$ or $\frac{2x(2-x)}{x+3}$

Event 2: GEOMETRY - Right triangles, Pythagorean Theorem, and special right triangles

A. 17

B. $\frac{8\sqrt{15}}{3}$

C. $8\sqrt{3}+6$

Event 3: ALGEBRA I - Age, motion, and number problems

A. 32

B. $(1,6), \left(-\frac{9}{2}, \frac{1}{2}\right)$

C. 12:04 p.m.

Event 4: TRIGONOMETRY - Inverse functions

A. $-\frac{\sqrt{13}}{2}$

B. $-\frac{2\sqrt{5}}{5}$

C. $\frac{1}{2}$

Event 5: ALGEBRA II - Relations and functions

A. c

B. $2x+4+h$

C. -2

Event 6: ALGEBRA I - Operations with polynomials

A. $6x^4 - 8x^3 + 10x^2 - 12x + 14$

B. $-10a-30$ or $-10(a+3)$ or $10(-a-3)$

C. -2

Event: TEAM

hair color: blonde
eye color: blue
suit color: dark brown
age: 28

ANSWERS

Event 1: ALGEBRA II - Exponents and radicals

A. $-\frac{7}{4}$

B. $\frac{1}{7} - \frac{\sqrt{2}}{28}$ or $\frac{\sqrt{2}-4}{-28}$ or $\frac{4-\sqrt{2}}{28}$

C. $3+2\sqrt{5}$

Event 2: GEOMETRY - Right triangles, Pythagorean Theorem, special right triangles

A. ~~$20\sqrt{2}$~~ $8\sqrt{7}$

B. $10\sqrt{2} + 5\sqrt{6}$

C. $2\sqrt{29}$

Event 3: ALGEBRA I - Age, motion, and number problems

A. -9

B. 5

C. $48\frac{48}{49}$ or $\frac{2400}{49}$

Event 4: TRIGONOMETRY - Inverse functions

A. $\frac{2\pi}{3}$

B. $-\frac{\sqrt{3}}{2}, 0, \frac{\sqrt{3}}{2}$

C. $\frac{\sqrt{21}}{14}$

Event 5: ALGEBRA II - Relations and functions

A. $64a^4 - 12a^2 + 1$

B. $F(x) = -3x + 1$ for $x \geq -1$

C. -8, 22

Event 6: ALGEBRA I - Operations with polynomials

A. $3x^2 - 19x + 28$

B. $x^{6c} - 729$

C. 2

Event: TEAM