

Meet 4 Answers

1. Arithmetic with Literal Equations

February 1993

1. $R = \pm\sqrt{\frac{AB}{1+T}}$
2. 2
3. 247, 307, 367

February 1994

1. \$20.90, \$41.80, \$52.25, \$19.00
2. 0.55
3. 8 p.m.

February 1995

1. 525
2. $a = -b$
3. -3

February 1996

1. $3cc$
2. $\frac{16-2a^2}{2a-7}$
3. 20

February 1997

1. 41.9%
2. 9
3. $\frac{-16n+21}{7}$

February 1998

1. 100110
2. -2b
3. $b = \frac{\sqrt{4-a^2g^2t^4}}{gt^2}$

February 1999

1. $\frac{d-by}{a-c}$
2. -2a or 3y
3. 41

March 2001

1. $\frac{2A}{h} - b_2$ or $\frac{2A-hb_2}{h}$
2. $c - b$
3. \$800

March 2002

1. $\frac{20IR}{21}$
2. $\frac{2FBC}{BE-2FA}$
3. $7/3$ or $7:3$ or 7 to 3

February 2003

1. $\frac{-b}{30}$
2. 5
3. $-3 \pm \frac{1}{2}b$

February 2004

1. $\frac{-11}{3}$
2. 4080
3. 504

February 2005

1. $\frac{A-P}{Pr}$
2. 2006
3. $\frac{ap^2t - ap + a^2pt}{1-at}$

February 2006

1. $b = \frac{2A-Bh}{h}$
2. $\frac{2bx+2by}{6y-1}$
3. 4

February 2007

1. 1
2. 2
3. 54

1. Arithmetic with Literal Equations

January 2008

1. $\frac{7}{9}$ or $\frac{7}{9}$ ounces
2. **11** or $r = 11$
3. $\frac{m \pm \sqrt{m^2 - 4a}}{2}$

February 2009

1. $r - m$
2. $\frac{b^2 + 6p^2 - 3pt}{b}$
3. **2392**

February 2010

1. **b**
2. **52**
3. **4**

February 2011

1. **280**
2. **-4**
3. **If $a = b = 0$, $c =$ all reals, and $d =$ all reals $\neq 1$. If $a = b$ and neither $= 0$, $c = -5$ and $d =$ all reals $\neq 1$.**

January 2012

1. $\frac{x+1}{2b+1}$ or $a = \frac{x+1}{2b+1}$
2. **$\pm 5/6$**
3. $\log_p \frac{1-a^2}{ae}$

January 2013

1. $\frac{L - a + d}{d}$
2. **84** or **84%**
3. $\frac{4-b}{a+b}$

January 2014

1. $\frac{S - 2LW}{2L + 2W}$
2. $-ax^2 - bx$
3. **42,857**

2. Logs and Log Equations

February 1989

1. $\frac{1}{2}$
2. 1
3. $\frac{3}{4}$

January 1990

1. $\frac{81}{100}$
2. $\frac{2}{3}$
3. $\frac{a+2b}{a+2b-1}$

February 1992

1. 4
2. -.0144
3. 2.3921

February 1993

1. $4\sqrt{3}$
2. 6
3. 23

February 1994

1. $\log_3 120$
2. 733.74
3. $7\sqrt[3]{7}$ or $7^{\frac{4}{3}}$

February 1995

1. $\frac{3}{10}$
2. 3.6
3. $\log 3y$ or $\log y$

February 1996

1. 16
2. 3.570
3. 64

February 1997

1. $\frac{1}{k}$
2. 0.6845
3. $\frac{1}{9}$

February 1999

1. $\frac{17}{4}$
2. $\frac{3}{2}$
3. $\pm \frac{\sqrt{3}}{3}$

February 2000

1. $\frac{4}{9}$
2. 0
3. 5

February 2001

1. $\frac{7}{6}$
2. $\frac{2}{A}$
3. 100, $\frac{1}{10}$

February 2002

1. 3
2. 15.75
3. 7, -15

February 2003

1. $-4\frac{1}{2}$
2. 1 or 100
3. $a = \sqrt{6}$

February 2004

1. .81R
2. 2190
3. $5AB - 8A$

2. Logs and Log Equations

February 2005

1. 2
2. $\frac{2}{3}$
3. $\left(\frac{\sqrt[3]{4}}{2} \text{ or } 2\sqrt{2}\right)$ or $\left(2^{-\frac{1}{3}} \text{ or } 2^{\frac{3}{2}}\right)$

February 2006

1. 0
2. 6
3. $2k$

February 2007

1. $\frac{1}{3}$
2. .1761
3. $1 + \sqrt{3}$

January 2008

1. 6
2. $\frac{Y - Z - W}{10^x}$
3. 5 or **B = 5**

February 2009

1. $\frac{5}{27}$
2. .70
3. 9 or $-\frac{7}{9}$

February 2010

1. $\sqrt[5]{10}$
2. $\frac{1}{4}$
3. -3

February 2011

1. .51
2. 4.5
3. 13

January 2012

1. 9 or $k = 9$
2. $\frac{3}{2}$ or $1\frac{1}{2}$ or 1.5
3. 2 or $4\sqrt{2}$

January 2013

1. 8
2. $\frac{3}{40}$
3. 3, 2, $2\frac{1}{2}$ or 3, 2, $\frac{5}{2}$

January 2014

1. $\frac{137}{20}$ or $6\frac{17}{20}$ or 6.85
2. 125
3. 3

3. Linear Coordinate Geometry

February 1989

1. -26
2. $\pm \frac{9}{4}$
3. 2 or -3

January 1990

1. $k = -2$
2. $\frac{5\sqrt{2}}{2}$
 $3x + 11y + 2 = 0$ and
3. $99x - 27y - 64 = 0$

February 1992

1. $5x + 3y - 10 = 0$
2. $k = -3$
3. $3x - y + 9 = 0$, $x + 2y - 4 = 0$

February 1993

1. $-7\frac{1}{2}$
2. $y = 2x - 5$
3. $y = -\frac{4}{5}x - 16$

February 1994

1. $y = \frac{5}{2}x$
2. $5\sqrt{5}$
3. $(-22, 1)$, $(8, -13)$, $(10, 7)$

February 1995

1. $5\frac{2}{5}$
2. $(4\frac{1}{5}, 3)$
3. $y = \frac{-3}{7}x + 4\frac{4}{7}$

February 1996

1. -18
2. $-3\frac{1}{5}$
3. $(-5, 6)$

February 1997

1. $(-9, -24)$
2. $y = 3x + 7$
3. $y = 8x - 32$ or $y = -4x - 8$

February 1999

1. $2x + y = 8$
2. $2x - 4y = -1$
3. $(3, 2)$

February 2000

1. $y = -\frac{4}{17}x + 23$
2. $(\frac{7}{3}, \frac{14}{3})$
3. $5x + 2y = 7$

February 2001

1. $-\frac{1}{3}$
2. -48
3. $(65, 27)$

February 2002

1. $-\frac{6}{5}$
2. $(-3, -1)$
3. $(\frac{8}{5}, \frac{57}{5})$

February 2003

1. -7
2. $(2, 9)$
3. 128

February 2004

1. $y = \frac{5}{2}x + 10$
2. $9x + 11y = 67$
3. $\frac{119}{5}$

3. Linear Coordinate Geometry

February 2005

1. -24 or (0,-24)
2. $\frac{24}{13}$
3. $\frac{1+m}{1-m}$

February 2006

1. $-\frac{5}{3}$
2. (16, 26)
3. $x + 23y = 40$

February 2007

1. $y = -\frac{2}{3}x + \frac{5}{3}$
2. (4, 4), (0, -6), (-10, 0)
3. $x - y = 1$

January 2008

1. (-3, 2)
2. $4x + 3y = 16$
3. $14x + 112y = 115$ and $64x - 8y = 275$

February 2009

1. $\frac{1}{2}$
2. $\frac{1}{m}$
3. $-9m$

February 2010

1. 12
2. (12, 7)
3. $(\frac{19}{3}, \frac{4}{3})$

February 2011

1. $2x + 3y = 11$
2. $ax - by = a^2 - b^2$
3. 0 or -12

January 2012

1. $\frac{3}{4}$ or 0.75
2. 17
3. Line A: $y = x + 4$
Line B: $y = 3x + 6$

January 2013

1. $\frac{1}{4}$
2. $9a$ or (0, $9a$)
3. 129 or (129, 0)

January 2014

1. $(0, 7\frac{1}{2})$
2. (18, 8)
3. $3\frac{2}{5}$ or $\frac{17}{5}$ or 3.4

4. Functions

February 1989

- 13
- $-\frac{1}{10}$
- 52

January 1990

- 7
- $\frac{5}{3} \leq x \leq 4$
- $t = -1$

February 1992

- $\frac{2}{5}$
- 4
- $x \geq 1$

February 1993

- $\frac{-5x + 3}{2}$
- 3
- $a = 4.5, b = 6$

February 1994

- $A(x) = 180x - 2x^2$
- $\frac{1 \pm \sqrt{37}}{2}$
- $R(x) = 10^{-x}$

February 1995

- $k = 6$
- $h - 4$
- All Reals, $x \neq 1$

February 1996

- 1 or 5
- $a = 3, b = -5, c = 6$
- $f^{-1}(x) = \sqrt{x+2} + 1$

February 1997

- 6
- 5
- $x = 0, x = \frac{7}{2}, y = \frac{1}{2}$

February 1999

- $\frac{20}{27}$
- 3
- 6

February 2000

- $\frac{5}{8}$
- 4
- All Reals, $x \neq -1, \pm 2, 3$

February 2001

- $\frac{1}{3}$
- $\frac{1}{8}$
- 25

February 2002

- All Reals, $x \geq 2$
- $-\frac{5}{2}$
- $9x^2 + 42x + 51$

February 2003

- 2003
- 1
- $a = -d$

February 2004

- 6
- $f^{-1}(x) = \frac{10x + 5}{x - 1}$
- $-\sqrt{34} \leq x \leq -3$ or $3 \leq x \leq \sqrt{34}$

February 2005

- 42
- $8 - \frac{1}{2}h$
- no solution

4. Functions

February 2006

1. All Reals ≥ 9
2. $\frac{-1}{3}$
3. 5

February 2007

1. All reals ≥ -4
2. a
3. 65,537

January 2008

1. $-3 \leq x \leq 3$
2. 3 or $A = 3$
3. All Reals ≥ 0

February 2009

1. 2
2. 11
3. 17

February 2010

1. $2x + 1$
2. All reals $\neq 2$ or -3
3. $(1 \pm 2\sqrt{b}, b)$ or $\left(a, \left(\frac{a-1}{2}\right)^2\right)$

February 2011

1. -4
2. 24
3. $7/4$

January 2012

1. $x^2 - 2x - 6$
2. $9x + 1$ or $f(3x+2) = 9x + 1$
3. 6

January 2013

1. 4
2. 53
3. 2000

January 2014

1. 7 or -2
2. -7
3. All reals $\neq -2/3, 3/4, \text{ or } 0$

5. Trigonometric Mechanics

February 1994

1. $\frac{-3}{5}$
2. $200 + 200\sqrt{3}$
3. 250°

February 1995

1. 9659
2. $50\sqrt{3}$
3. 1027

February 1996

1. $\frac{8\sqrt{65}}{65}$
2. 420π
3. 9450

February 1997

1. -318
2. 32.14
3. 83.8

February 1999

1. $32^\circ 43'$
2. 1.2
3. 11.5

February 2000

1. $6\sqrt{3}$
2. 64.3°
3. 74.9

February 2001

1. 108
2. $25^\circ 5'$
3. 50,714

February 2002

1. 6.29
2. 63.7
3. 20

February 2003

1. $3\sqrt{5}$
2. $148^\circ 58'$
3. 3.09

February 2004

1. 143.239
2. 18.867
3. 46.8

February 2005

1. $\frac{c}{a}$ or $\frac{\sqrt{a^2 + b^2}}{a}$
2. 19
3. 6.4

February 2006

1. 43.8
2. 198.2
3. 94.96

February 2007

1. 104.6
2. 144.7
3. 521.1 mph, 175.6°

January 2008

1. 5.3623
2. (-1.6180, 1.1756)
3. $39^\circ 16' 21''$

February 2009

1. 4
2. $\frac{\sqrt{6}}{3}$
3. 51.3

February 2010

1. 38°
2. $57^\circ 44'$
3. 1857

February 2011

1. 106.26°
2. $\frac{9}{8}$ or 1.125
3. 77.82

5. Trigonometric Mechanics

January 2012

1. $\frac{3\sqrt{39}}{20}$
2. $61^\circ 41'$
3. 137.48 (sq units)

January 2013

1. 30
2. 2.39
3. 213.6

January 2014

1. 52.9°
2. 5.85
3. 10,480 ft or 10,480