A1 SOL Packet #4

Algebra 1 SOL Released Questions:

Writing Linear Equations

Which equation represents the horizontal line passing through $(7, 5)$?

A $x = 5$

B $y = 5$

C $x = 7$

D $y = 7$

2013

A representation of a function is shown.

$$f(x) = {}^-4x + 2$$

What are the x-intercept and the y-intercept of this function?

A x-intercept of $(0, {}^-2)$ and y-intercept of $\left(\frac{{}^-1}{2}, 0\right)$

B x-intercept of $(0, 2)$ and y-intercept of $\left(\frac{1}{2}, 0\right)$

C x-intercept of $\left(\frac{{}^-1}{2}, 0\right)$ and y-intercept of $(0, {}^-2)$

D x-intercept of $\left(\frac{1}{2}, 0\right)$ and y-intercept of $(0, 2)$

2013

In which table do the values represent the rule shown?

The square of the sum of x and 5 is equal to y.

A

x	y
3	28
4	29

B

x	y
3	14
4	21

C

x	y
3	64
4	81

D

x	y
3	34
4	41

PIG 2009

Which describes the graph of $g(x) = {}^-3x + 5$?

F   A line with a slope of $^-3$ and a y-intercept of $^-5$.

G   A line with a slope of $^-3$ and a y-intercept of 5.

H   A line with a slope of 3 and a y-intercept of $^-5$.

J   A line with a slope of 3 and a y-intercept of 5.

2010

Which is an equation of the line that passes through the points $(5, 15)$ and $(10, 20)$?

F $y = x + 10$

G $y = x - 30$

H $y = x + 30$

J $y = x + 15$

2009

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Which equation fits the pattern in the table?

x	y
2	3
4	4
6	5
8	6

A $y = \dfrac{1}{3}x + 3$

B $y = \dfrac{1}{2}x + 2$

C $y = x + 1$

D $y = 2x - 1$

The points in the table lie on the graph of a linear function.

x	1	2	3	4	5
y	1	4	7	10	13

Which could be the function?

F $y = x$

G $y = 2x - 1$

H $y = 3x - 2$

J $y = 4x - 3$

Line *l* has slope 2 and goes through (1,3). Which is one form of the equation for line *l* ?

A $y = x + 2$

B $y = 2x + 1$

C $y = 3x + 2$

D $y = 2x + 5$

Which is an equation for the line with slope $= \dfrac{1}{2}$ and *y*-intercept of 3?

F $y = {}^-3x + \dfrac{1}{2}$

G $y = 3x + \dfrac{1}{2}$

H $y = \dfrac{1}{2}x + 3$

J $y = \dfrac{1}{2}x - 3$

What are the *x*- and *y*-intercepts of the line with equation $4x + 5y = 40$?

A *x*-intercept 10, *y*-intercept 8

B *x*-intercept 8, *y*-intercept 10

C *x*-intercept ⁻10, *y*-intercept ⁻8

D *x*-intercept ⁻8, *y*-intercept ⁻10

Which is an equation for the line that passes through the origin and has a slope of $\dfrac{3}{5}$?

A $y = \dfrac{3}{5}$

B $x = \dfrac{3}{5}$

C $y = x$

D $y = \dfrac{3}{5}x$

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Which is an equation for the line that passes through the points (3, 0) and (0, 2)?

A $y = \dfrac{-3}{2}x + 2$

B $y = \dfrac{-2}{3}x + 2$

C $y = \dfrac{2}{3}x + 3$

D $y = \dfrac{3}{2}x + 3$

2006

What is the y-intercept of

$$4x + 8y = 12?$$

A 3

B $\dfrac{3}{2}$

C $\dfrac{-1}{2}$

D ⁻4

2005

Which is an equation for the line with a slope of $\dfrac{1}{2}$ that passes through the origin?

F $y = \dfrac{1}{2}x$

G $y = 2x$

H $y = \dfrac{1}{2}$

J $x = 0$

2005

Which is an equation for the line which contains (3, 4) and the origin?

A $y = \dfrac{3}{4}x$

B $y = \dfrac{4}{3}x$

C $y = 4x + 3$

D $y = 3x + 4$

2005

Which equation is the slope-intercept form of

$$\overline{x} + 6y = 12?$$

F $y = \dfrac{1}{6}x + 2$

G $y = \dfrac{-1}{6}x + 2$

H $x = 6y - 12$

J $6y = 12 + x$

2004

Which is an equation of the line with slope $\dfrac{2}{3}$ that passes through the point (4, ⁻1)?

F $y = \dfrac{-1}{4}x + \dfrac{2}{3}$

G $y = {}^{-}4x + \dfrac{2}{3}$

H $y = \dfrac{2}{3}x - \dfrac{5}{3}$

J $y = \dfrac{2}{3}x - \dfrac{11}{3}$

2004

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x	-1	0	1	2
y	-3	-1	1	3

Which equation fits the data in the table?

A $y = x - 2$

B $y = 2x - 1$

C $y = 3x - 3$

D $y = x + 1$

x	y
-2	-11
2	1
4	7
0	-5

Which equation is true for all the values in the table?

F $y = x - 9$

G $y = x - 5$

H $y = 3x - 5$

J $y = 2x - 7$

x	-2	0	2	4
y	3	2	1	0

Which equation fits the data in the table?

A $y = \dfrac{-x}{2} + 2$

B $y = x + 3$

C $y = 2x - 3$

D $y = \dfrac{x}{2} + 2$

The equation of the line that contains the points (-8, 1) and (0, -5) is —

A $y = \dfrac{3}{4}x + 7$

B $y = \dfrac{1}{2}x + 1$

C $y = \dfrac{-3}{4}x - 5$

D $y = \dfrac{-3}{4}x + 7$

Which is an equation for the line that contains the points (-3, 5) and (1, -3)?

A $y = -x + 2$

B $y = -2x - 1$

C $y = -\dfrac{1}{2}x - \dfrac{3}{2}$

D $y = \dfrac{3}{2}x - \dfrac{9}{2}$

x	-6	2	10
y	1	3	5

Which equation is satisfied by all the points in the table?

F $x - 4y = 10$

G $4y - x = 10$

H $7y - x = 20$

J $x - 7y = 20$

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A line has a slope of ⁻2 and contains the point (1, ⁻1). Which is an equation of this line?

A $y = ^-2x - 1$

B $y = ^-x + 2$

C $y = ^-2x + 1$

D $y = 2x - 3$

Which is an equation for the line that contains the points (⁻2, 3) and (2, ⁻1)?

A $y = x + 5$

B $y = x - 3$

C $y = ^-x + 1$

D $y = ^-2x - 1$

x	y
0	4
3	1
6	⁻2

Which equation *most* likely describes the relation indicated by the table?

F $y = x + 4$

G $y = x - 2$

H $y = ^-x + 4$

J $y = ^-x - 8$

In which table are all the points represented by the equation

$y = \dfrac{^-x}{4} + 2?$

F

x	0	2	6	8
y	2	1	$\frac{1}{2}$	0

G

x	0	4	6	8
y	2	1	$\frac{1}{2}$	0

H

x	0	4	6	8
y	2	1	0	⁻1

J

x	0	2	4	6
y	2	1	0	$\frac{^-1}{2}$

Which is an equation for the line that passes through (0, 2) and (⁻2, 0)?

A $y = ^-x$

B $y = x + 2$

C $y = ^-x - 2$

D $y = x - 2$

Which is an equation of a line that has a slope of $-\dfrac{1}{2}$ and contains the point (2, 3)?

A $y = 2x - \dfrac{1}{2}$

B $y = -\dfrac{x}{2} + 4$

C $y = \dfrac{x}{2} + 3$

D $y = 3x + 2$