

Algebra 1 Benchmark Practice

Algebra 1 Benchmark 1.1	1. $-3(-6) = 18$	2. $-20 + (-5) = 4$	3. $-10(3) = -30$	4. $-7 - (-5) = -2$
	5. $-5 - 12 = -17$	6. $-2 + 7 = 5$	7. $24 + (-8) = 16$	8. $-4 + (-8) = -12$

Algebra 1 Benchmark 1.2	1. Evaluate: $-12 + 6 + 7 - 3(7)$ $-2 + 7 - 3(7)$ $-2 + 7 - 21$ $5 - 21$ -16	2. Evaluate: $-3 - 2(7 - 11)^2$ $-3 + 2(-4)^2$ $-3 + 2(16)$ $-3 + 32$ 29
-------------------------	--	--

Algebra 1 Benchmark 4.0	1. Simplify: $20x - 4$ $-5x + 1$	2. Simplify: $(-3h + 7k)(-2)$ $6h - 14k$	3. Simplify: $2(-9 + 5x) - 2(x - 1)$ $-18 + 10x - 2x + 2$ $8x - 16$
-------------------------	-------------------------------------	---	---

Algebra 1 Benchmark 5.1	1. $x^2 + 3 = 8$ $x = 11$	2. $\frac{2}{3}x + 6 = 7$ $x = 12\frac{3}{2}$ $x = 6$	3. $-5(x - 1) = 6$ $-5x + 5 = 6$ $-5x = 1$ $x = -\frac{1}{5}$	4. $2(x - 5) = 2x - 7x - 7$ $2x - 10 = -5x - 7$ $7x - 10 = -7$ $7x = 3$ $x = \frac{3}{7}$
-------------------------	------------------------------	---	--	---

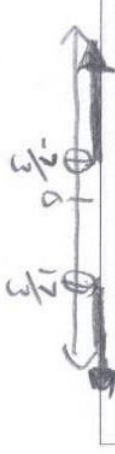
Algebra 1 Benchmark 5.2

1. $3x - 5x > 30$	2. $3x - 4 \geq 14$	3. $7 - 4x > 2x + 10$	4. $2(x + 5) \leq -3 + x$
-------------------	---------------------	-----------------------	---------------------------

Algebra 1 Benchmark 5.3	1. Evaluate: $3y - 8x$ when $x = -4$ and $y = 7$ $3(7) - 8(-4)$ $21 + 32$ 53	2. Evaluate: $\frac{12 + 4x}{-3x}$ when $x = -5$ $\frac{12 + 4(-5)}{-3(-5)}$ $\frac{-8}{15}$	3. Is $x = -3$ a solution for the following inequality? $2(x - 1) < -3 + 5x$ $2(-3 - 1) < -3 + 5(-3)$ $2(-4) < -3 - 15$ $-8 < -18$ False (No)
-------------------------	---	--	---

Algebra 1 Benchmark 5.4	Write an equation to represent the following statement and then solve it: Ten less than three times a number is 30. $3x - 10 = 30$ $3x = 40$ $x = \frac{40}{3}$	Topic: Solving Word Problems
-------------------------	---	------------------------------

Algebra 1 Benchmark 3.0	1. Solve for x : $ 2x - 5 = 9$ $2x + 5 = 9$ $2x = 4$ $x = 2$	2. Solve for x : $ 5 - 3x > 12$ $-3x > 7$ or $-3x < -17$ $x < -\frac{7}{3}$ or $x > \frac{17}{3}$
-------------------------	--	--



Algebra 1 Benchmark 7.1

1. Does the point (-3, 8) lie on the line defined by:

$y = -3x - 5$?

$8 = -3(-3) - 5$

$8 = 9 - 5$

$8 = 4$ (NO)

Topic: Interpreting Linear Equations

2. Does the point (-3, -9) lie on the line defined by:

$5x + 3y = 7$?

$5(-3) + 3(-9) = 7$

$-15 - 27 = 7$

$-42 = 7$ (NO)

Topic: Slope

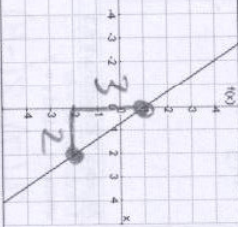
Algebra 1 Benchmark 7.2

1. Find the slope of a line through (-8, 1) and (7, -1)

$m = \frac{-1 - 1}{7 - (-8)} = \frac{-2}{15}$

2. Find the slope of the following line:

$m = \frac{-3}{2}$

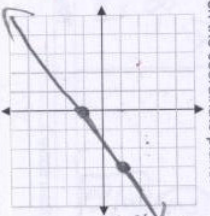


Topic: Graphing Linear Equations

Algebra 1 Benchmark 6.1

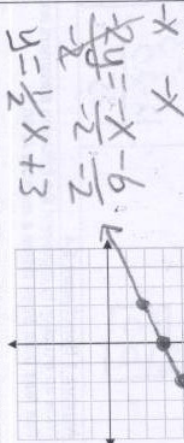
1. Graph the linear equation on the coordinate plane:

$y = \frac{2}{3}x - 1$



2. Graph the linear equation on the coordinate plane:

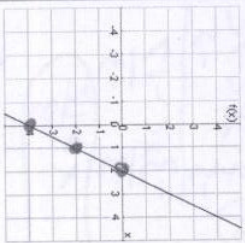
$x - 2y = -6$



Topic: Deriving & Interpreting Linear Equations

1. What is the equation of the following graph?

$y = 2x - 4$



2. What is the slope and y-intercept for the following equations?

$x + 3y = 9$

$+x + 3y = 9$

$\frac{3y}{3} = \frac{9-x}{3}$

$y = \frac{1}{3}x + 3$

Slope: $\frac{1}{3}$

y-intercept: $(0, 3)$

3. What are the x and y-intercepts of the following linear equation?

$3x - 4y = -24$

$\frac{3x}{3} = \frac{-24 + 4y}{3}$

$x = -8 + \frac{4}{3}y$

$x = -8$

$\frac{4}{3}y = \frac{24}{4}$

$y = 6$

x-intercept: $(-8, 0)$

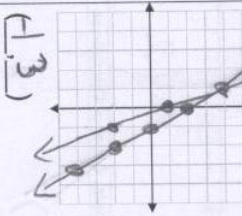
y-intercept: $(0, 6)$

Algebra 1 Benchmark 9.0

1. What ordered pair is the solution to this system? (Use graphing)

$2x + y = 2$

$y = -3x + 1$



$2x + y = 2$
 $-2x + y = 2$
 $y = -2x + 2$

2. What ordered pair is the solution to this system? (Use substitution)

$y = -x + 6$

$4x - y = 14$

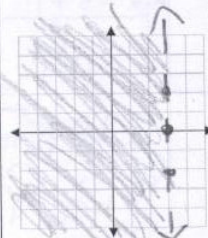
$(4, 2)$

$4x - (-x + 6) = 14$
 $4x + x - 6 = 14$
 $5x - 6 = 14$
 $+6 + 6$
 $5x = 20$
 $\frac{5x}{5} = \frac{20}{5}$
 $x = 4$
 $y = -(4) + 6$
 $y = 2$

Algebra 1 Benchmark 6.3

1. Graph the linear inequality on the coordinate plane:

$y < 3$



2. Graph the linear inequality on the coordinate plane:

$2x - 3y < -6$

$-2x - 2x$

$\frac{-3y}{-3} < \frac{-2x - 6}{-3}$

$y > \frac{2}{3}x + 2$

