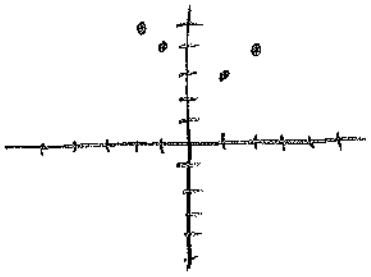
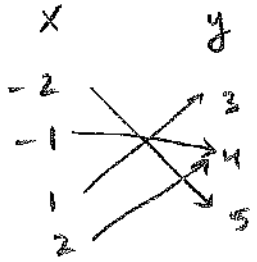
Algebra 1 Formative Assessment – Section 3-2 (8 points)

Name: Key Date: Block:

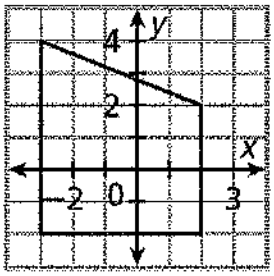
1) Express the relation {(–2, 5), (–1, 4), (1, 3), (2, 4)} as a table, as a graph, and as a mapping diagram.

x	y
-2	5
-1	4
1	3
2	4





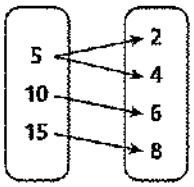
2) Give the domain and range of the relation.



D: $-3 \leq x \leq 2$

R: $-2 \leq y \leq 4$

3) Give the domain and range of the relation. Tell whether the relation is a function. Explain.



D: {5, 10, 15}

R: {2, 4, 6, 8}

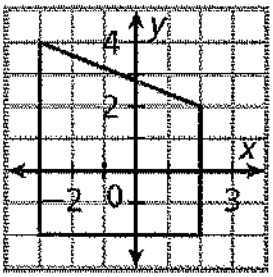
Not a function b/c the x-value 5 has two y-values 2 and 4.

Algebra 1 Formative Assessment – Section 3-2 (8 points)

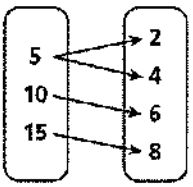
Name: Date: Block:

1) Express the relation {(–2, 5), (–1, 4), (1, 3), (2, 4)} as a table, as a graph, and as a mapping diagram.

2) Give the domain and range of the relation.



3) Give the domain and range of the relation. Tell whether the relation is a function. Explain.



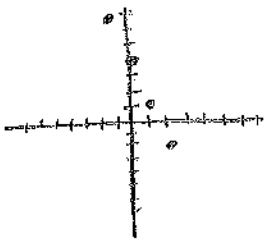
Algebra 1 Formative Assessment – Section 3-4 (points)

Name: Key Date: Block:

1) Graph the function for the given domain.
$3x + y = 4$
D: {–1, 0, 1, 2}

$3x + y = 4$
$-3x \quad -3x$
$y = -3x + 4$

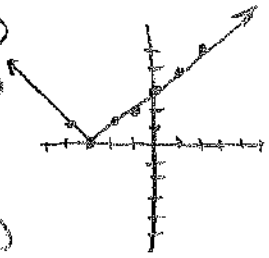
$y = -3(-1) + 4 = 7 \quad (-1, 7)$
$y = -3(0) + 4 = 4 \quad (0, 4)$
$y = -3(1) + 4 = 1 \quad (1, 1)$
$y = -3(2) + 4 = -2 \quad (2, -2)$



2. Graph the function $y = |x + 3|$.

D: {-2, -1, 0, 1, 2}

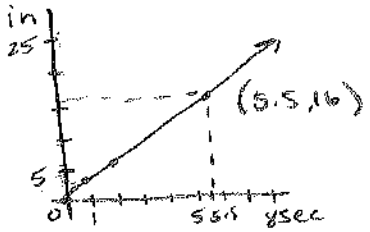
$y = |-2 + 3| = |1| = 1 \quad (-2, 1)$
$y = |-1 + 3| = |2| = 2 \quad (-1, 2)$
$y = |0 + 3| = |3| = 3 \quad (0, 3)$
$y = |1 + 3| = |4| = 4 \quad (1, 4)$
$y = |2 + 3| = |5| = 5 \quad (2, 5)$
$y = |-3 + 3| = |0| = 0 \quad (-3, 0)$
$y = |-4 + 3| = |-1| = 1 \quad (-4, 1)$



2) The function $y = 3x$ describes the distance (in inches) a giant tortoise walks in x seconds. Graph the function. Use the graph to estimate how many inches the tortoise will walk in 5.5 seconds.

D: {0, 1, 2}

$y = 3(0) = 0 \quad (0, 0)$
$y = 3(1) = 3 \quad (1, 3)$
$y = 3(2) = 6 \quad (2, 6)$



About 16 in

Algebra 1 Formative Assessment – Section 3-4 (points)

Name: Date: Block:

1) Graph the function for the given domain.
$3x + y = 4$
D: {–1, 0, 1, 2}

2. Graph the function $y = |x + 3|$.

2) The function $y = 3x$ describes the distance (in inches) a giant tortoise walks in x seconds. Graph the function. Use the graph to estimate how many inches the tortoise will walk in 5.5 seconds.

8

Algebra 1 Formative Assessment – Section 3-6 (points)

Name:_____ Date:_____ Block:_____

1) Determine whether each sequence appears to be an arithmetic sequence. If so, find the common difference and the next three terms in the sequence.

a) 3, 9, 27, 81,...

9-3 27-9

6 18

Not Arithmetic

b) 5, 6.5, 8, 9.5,...

6.5-5 8-6.5 9.5-8

1.5 1.5 1.5

Arithmetic

$d = 1.5$

11, 12.5, 14

2) Find the indicated term of each arithmetic sequence.

23rd term: –4, –7, –10, –13, ...

$-7 - -4 = -3 = d$

$a_n = a_1 + (n-1)d$

$a_{23} = -4 + (23-1)(-3)$

$a_{23} = -70$

2) Find the indicated term of each arithmetic sequence.

34th term: $a_1 = 3.2$, $d = 2.6$

$a_n = a_1 + (n-1)d$

$a_{34} = 3.2 + (34-1)(2.6)$

$a_{34} = 89$

3) On day 1, Zelle has knitted 61 rows of a scarf. Each day she adds 17 more rows. How many rows total has Zelle knitted on day 16?

$a_1 = 61$

$d = 17$

$n = 16$

$a_n = a_1 + (n-1)d$

$a_{16} = 61 + (16-1)(17)$

$a_{16} =$ 316 rows

8

Algebra 1 Formative Assessment – Section 3-6 (points)

Name:_____ Date:_____ Block:_____

1) Determine whether each sequence appears to be an arithmetic sequence. If so, find the common difference and the next three terms in the sequence.

a) 3, 9, 27, 81,... b) 5, 6.5, 8, 9.5,...

2) Find the indicated term of each arithmetic sequence.

23rd term: –4, –7, –10, –13, ...

2) Find the indicated term of each arithmetic sequence.

34th term: $a_1 = 3.2$, $d = 2.6$

3) On day 1, Zelle has knitted 61 rows of a scarf. Each day she adds 17 more rows. How many rows total has Zelle knitted on day 16?

Algebra 1 Formative Assessment – Sections 4-3 and 4-4 (8 points)

Name: Key Date: Block:

1) The table shows the number of bikes made by a company for certain years. Find the rate of change for each time period. During which time period did the number of bikes increase at the fastest rate?

Year	1	2	5	7	11
Bikes	32	35	47	47	61

① $\frac{35-32}{2-1} = \frac{3}{1} = 3$ ④ $\frac{61-47}{11-7} = \frac{14}{4} = 3.5$

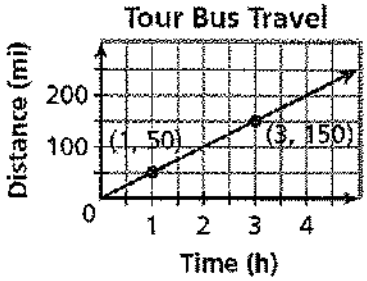
② $\frac{47-35}{5-2} = \frac{12}{3} = 4$

③ $\frac{47-47}{7-5} = \frac{0}{2} = 0$

Between Years 2 and 5

4 bikes/yr

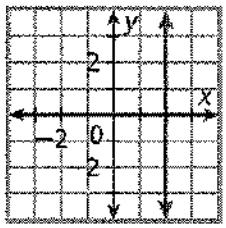
3) Find the slope of the line. Then tell what the slope represents.



50 mi/h

$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{150-50}{3-1} = \frac{100}{2} = 50$

2) Find the slope of each line.



Undefined

4) Find the slope of the line described by $x + 2y = 8$.

$x + 2y = 8$

$-x \quad -x$

$\frac{2y}{2} = \frac{-x+8}{2}$

$y = \frac{-x}{2} + \frac{8}{2}$

$y = -\frac{1}{2}x + 4$

$m = -\frac{1}{2}$

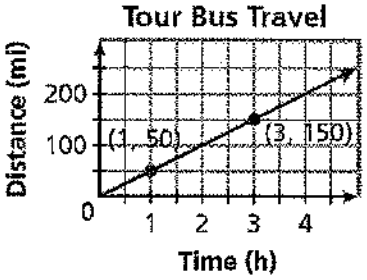
Algebra 1 Formative Assessment – Section 4-3 (8 points)

Name: Date: Block:

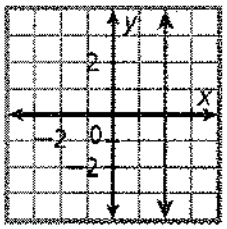
1) The table shows the number of bikes made by a company for certain years. Find the rate of change for each time period. During which time period did the number of bikes increase at the fastest rate?

Year	1	2	5	7	11
Bikes	32	35	47	47	61

3) Find the slope of the line. Then tell what the slope represents.



2) Find the slope of each line.



4) Find the slope of the line described by $x + 2y = 8$.

10

Algebra 1 Formative Assessment – Section 4-6 (points)

Name:_____ Date:_____ Block:_____

1) Write the equation that describes each line in the slope-intercept form.

a) slope = 3, y-intercept = –2

$y = 3x - 2$

b) slope = $\frac{3}{2}$, (2, 7) is on the line

$7 = \frac{3}{2}(2) + b$

$7 = 3 + b$

$-3 \quad -3$

$4 = b$

$y = \frac{3}{2}x + 4$

c) (0, 4) and (–7, 2) are on the line

$m = \frac{2-4}{-7-0} = \frac{-2}{-7} = \frac{2}{7}$

$4 = \frac{2}{7}(0) + b$

$4 = b$

$y = \frac{2}{7}x + 4$

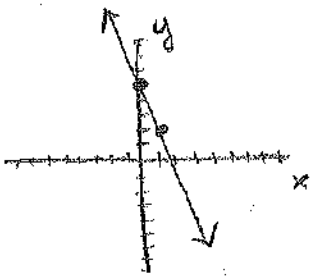
2) Write each equation in slope-intercept form. Then graph the line described by the equation.

a) $6x + 2y = 10$

$-6x \quad -6x$

$\frac{2y}{2} = \frac{-6x + 10}{2}$

$y = -3x + 5$

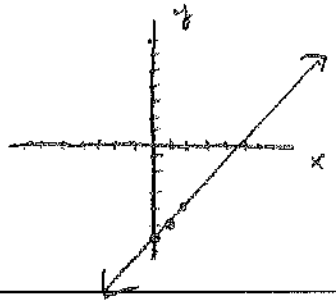


b) $x - y = 6$

$-x \quad -x$

$\frac{-y}{-1} = \frac{-x + 6}{-1}$

$y = x - 6$



10

Algebra 1 Formative Assessment – Section 4-6 (points)

Name:_____ Date:_____ Block:_____

1) Write the equation that describes each line in the slope-intercept form.

a) slope = 3, y-intercept = –2

b) slope = $\frac{3}{2}$, (2, 7) is on the line

c) (0, 4) and (–7, 2) are on the line

2) Write each equation in slope-intercept form. Then graph the line described by the equation.

a) $6x + 2y = 10$

b) $x - y = 6$

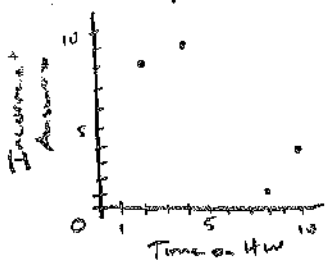
Algebra 1 Formative Assessment – Section 4-8 (7 points)

Name: Key Date: Block:

1) The table shows time spent on homework and number of incorrect quiz answers for several students.

Time Spent on Homework (h)	2	4	8	10
Incorrect Answers	8	9	1	4

Create a scatter plot for the data.



2) Find the equation for the line of best fit. Interpret the meaning of the slope and y-intercept.

$y = -0.8x + 10.3$

slope = -0.8 | 0.8 less incorrect answers / hr on Hw

y-int = 10.3 | 10.3 incorrect answers if you spend no time on Hw

3) Use your equation to predict the number of incorrect answers for 5 hours of study.

$y = -0.8(5) + 10.3$

$y = 6.3$ | About 6 or 7 incorrect answers

4) Identify the correlation coefficient. How well does the line of best fit represent the data? Explain.

$r = -0.79$

Pretty strong negative correlation

Algebra 1 Formative Assessment – Section 4-8 (points)

Name: Date: Block:

1) The table shows time spent on homework and number of incorrect quiz answers for several students.

Time Spent on Homework (h)	2	4	8	10
Incorrect Answers	8	9	1	4

Create a scatter plot for the data.

2) Find the equation for the line of best fit. Interpret the meaning of the slope and y-intercept.

3) Use your equation to predict the number of incorrect answers for 5 hours of study.

4) Identify the correlation coefficient. How well does the line of best fit represent the data? Explain.