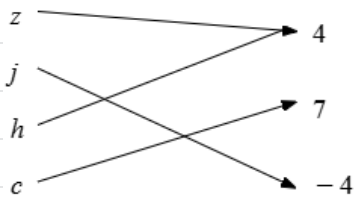
Identifying functions from relations

Four relations are shown below. Click on the tabs to see them.

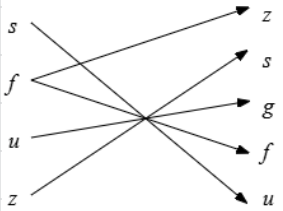
Relation 1 | Relat

Domain Range



1 | **Relation 2** | Re

Domain Range



lation 2 | **Relation 3** | Rel

Domain	Range
m	door
w	door
s	door
e	door
h	door

elation 3 | **Relation 4**

Domain	Range
−8	2
−9	−8
−9	4
−8	0
−8	5

(1)

ELO PAPER EVIDENCE

RELATION 1	FUNCTION. EACH INPUT (z, j, h, c) HAS EXACTLY ONE OUTPUT.
RELATION 2	NOT A FUNCTION. INPUT (f) HAS TWO DIFF. OUTPUTS (z & f).
RELATION 3	FUNCTION. EACH INPUT (m, w, s, e, h) HAS EXACTLY ONE OUTPUT
RELATION 4	NOT A FUNCTION. INPUT (-9) HAS TWO DIFF. OUTPUTS, (-8 & 4)

TOPIC ID: 11EV-C2.Ø	TOPIC TITLE: IDENTIFYING FUNCTIONS		FORESTHILL HIGH SCHOOL
NAME:		BLOCK: ALL	DATE:

LEARNING PAPER EVIDENCE

Domain and range from ordered pairs

Suppose that the relation G is defined as follows.

$$G = \{(3, 0), (-9, 3), (6, -1), (4, 4)\}$$

Give the domain and range of G.
Write your answers using set notation.

ELO PAPER EVIDENCE

1

DOMAIN	3, -9, 6, 4 → {3, -9, 6, 4}
RANGE	Ø, 3, -1, 4 → {Ø, 3, -1, 4}

Domain and range from ordered pairs

Suppose that the relation S is defined as follows.

$$S = \{(7, 0), (7, d), (1, 5), (5, a)\}$$

Give the domain and range of S.
Write your answers using set notation.

ELO PAPER EVIDENCE

2

DOMAIN	7, 7, 1, 5 → {7, 1, 5}
RANGE	Ø, d, 5, a → {Ø, d, 5, a}

TOPIC ID: 12EV-C2.Ø	TOPIC TITLE: DOMAIN AND RANGE FROM ORDERED PAIRS		FORESTHILL HIGH SCHOOL
NAME:		BLOCK: ALL	DATE:

LEARNING PAPER EVIDENCE

LEARNING PAPER EVIDENCE

Finding inputs and outputs of a two-step function that models a real-world situation: Function notation

Henry is a software salesperson. His base salary is $ 1,500 and he makes $ 80 more for every copy of *Math is Fun* he sells. His total pay, (in dollars), after selling c copies is given by the following function.

$$P(c) = 1{,}500 + 80c$$

Answer the following questions.

(a) If Henry's total pay is $\$3{,}980$, how many copies did he sell?

☐ copies

(b) What is Henry's total pay if he sells 22 copies?

$☐

A railroad crew can lay 5 miles of track each day. They need to lay 145 miles of track. The length, L (in miles), that is left to lay after d days is given by the following function.

$$L(d) = 145 - 5d$$

Answer the following questions.

(a) How many days will it take the crew to lay all the track?

☐ days

(b) How many miles of track does the crew have left to lay after 17 days?

☐ miles

ELO PAPER EVIDENCE

(1)(a) $P(c) = 1500 + 80c$

$3980 = 1500 + 80c$

$-1500 \quad -1500$

$\frac{2480}{80} = \frac{80c}{80} \Rightarrow 31 = c \rightarrow c = 31$ (COPIES)

(1)(b) $P(c) = 1500 + 80c$

$P(22) = 1500 + 80(22)$

$P(22) = 1500 + 1760$

$P(22) = 3260$ (TOTAL PAY IN DOLLARS)

ELO PAPER EVIDENCE

(2)(a) $L(d) = 145 - 5d$

$0 = 145 - 5d$

$+5d \qquad +5d$

$\frac{5d}{5} = \frac{145}{5} \Rightarrow d = 29$ (days)

(2)(b) $L(d) = 145 - 5d$

$L(17) = 145 - 5(17)$

$L(17) = 145 - 85$

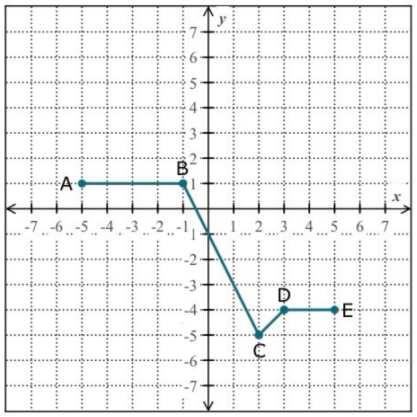
$L(17) = 60$ (MILES LEFT)

TOPIC ID: 13EV-C2.0	TOPIC TITLE: INPUTS/OUTPUTS OF TWO STEP FUNCTIONS	FORESTHILL HIGH SCHOOL
NAME:	BLOCK: ALL DATE:	

LEARNING PAPER EVIDENCE

FINDING WHERE A FUNCTION IS INCREASING, DECREASING, OR CONSTANT GIVEN THE GRAPH

Use the graph to determine the behavior of the function between the indicated points.



(a) Determine the behavior of the function between points A and B.

- ○ Increasing
- ○ Constant
- ○ Decreasing

(b) Determine the behavior of the function between points B and C.

- ○ Increasing
- ○ Constant
- ○ Decreasing

(c) Determine the behavior of the function between points C and D.

- ○ Increasing
- ○ Constant
- ○ Decreasing

(d) Determine the behavior of the function between points D and E.

- ○ Increasing
- ○ Constant
- ○ Decreasing

ELO PAPER EVIDENCE

①

(a) A to B: CONSTANT. y STAYS AT 1
(b) B to C: DECREASING. y FALLS FROM 1 to -5
(c) C to D: INCREASING. y RISES FROM -5 to -4
(d) D to E: CONSTANT. y STAYS AT -4

TOPIC ID: 14EV-C2.Ø	TOPIC TITLE: FINDING WHERE FUNCTIONS INCREASE, DECREASE OR REMAIN CONSTANT	FORESTHILL HIGH SCHOOL
NAME:	BLOCK: ALL	DATE:

LEARNING PAPER EVIDENCE

Finding Slope given two points on a line

Find the slope of the line passing through the points (-9, -3) and (7, -7)

ELO Paper Evidence

(1) $m = \frac{-7-(-3)}{7-(-9)} = \frac{-4}{16} = -\frac{1}{4}$

Find the slope of the line passing through the points (7, -2) and (2, -6)

ELO Paper Evidence

(2) $m = \frac{-6-(-2)}{2-(7)} = \frac{-4}{-5} = \frac{4}{5}$

Find the slope of the line passing through the points (-8, -3) and (-3, 4)

ELO Paper Evidence

(3) $m = \frac{4-(-3)}{-3-(-8)} = \frac{7}{5}$

Find the slope of the line passing through the points (-7, 2) and (9, 6)

ELO Paper Evidence

(4) $m = \frac{6-(2)}{9-(-7)} = \frac{4}{16} = \frac{1}{4}$

TOPIC ID: 15EV-C2.Ø	TOPIC TITLE: Finding Slope Given Two Points On A Line		FORESTHILL HIGH SCHOOL
NAME:		BLOCK: ALL	DATE:

LEARNING PAPER EVIDENCE

LEARNING PAPER EVIDENCE

FINDING THE SLOPE AND Y-INTERCEPT OF A LINE GIVEN ITS EQUATION IN THE FORM Y = MX + B

Find the slope and y-intercept of the line: $y = \frac{2}{5}x - \frac{1}{2}$

slope: ☐

y-intercept: ☐

ELO PAPER EVIDENCE

(1) $y = \frac{2}{5}x - \frac{1}{2}$ — Y-INTERCEPT: $b = -\frac{1}{2}$

SLOPE: $m = \frac{2}{5}$

Find the slope and y-intercept of the line: $y = -x + 2$

y-intercept: ☐

slope: ☐

ELO PAPER EVIDENCE

(2) $y = (-1)x + (2)$ — Y-INTERCEPT: $b = 2$

SLOPE: $m = -1$

Find the slope and y-intercept of the line: $y = 8 - \frac{1}{3}x$

slope: ☐

y-intercept: ☐

ELO PAPER EVIDENCE

(3) $y = 8 + (-\frac{1}{3}x) = (-\frac{1}{3})x + (8)$

SLOPE: $m = -\frac{1}{3}$

Y-INTERCEPT: $b = 8$

Find the slope and y-intercept of the line: y = -4 + x

slope: ☐

y-intercept: ☐

ELO PAPER EVIDENCE

(4) $y = (1)x + (-4)$

SLOPE: $m = 1$

Y-INTERCEPT: $b = -4$

TOPIC ID: 16EV-C2.Ø	TOPIC TITLE: FINDING SLOPE | Y-INTERCEPT IN Y = MX + B	FORESTHILL HIGH SCHOOL
NAME:	BLOCK: ALL DATE:	

LEARNING PAPER EVIDENCE

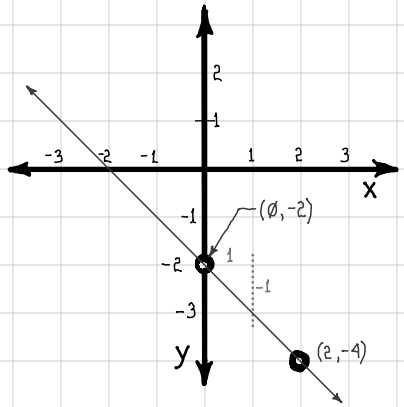
LEARNING PAPER EVIDENCE

Graphing a line given its equation in slope-intercept form: Integer slope

Graph the line:
$y = -x - 2$

ELO Paper Evidence

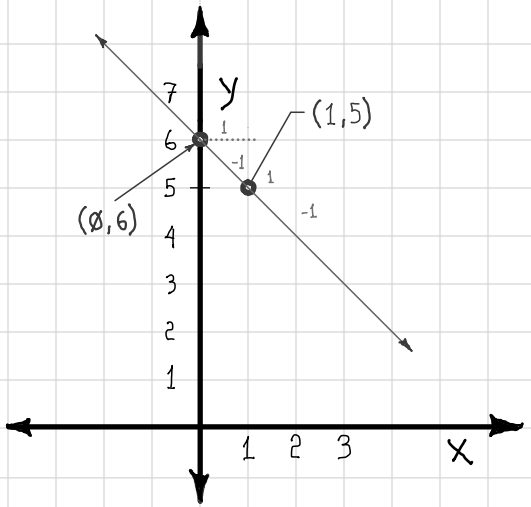
1



Graph the line:
$y = -x + 6$

ELO Paper Evidence

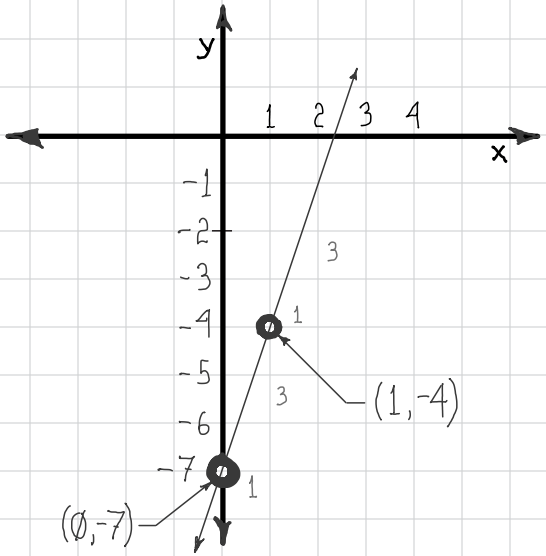
2



Graph the line:
$y = 3x - 7$

ELO Paper Evidence

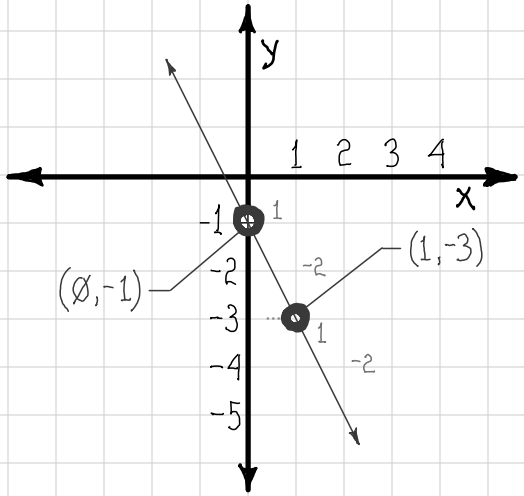
3



Graph the line:
$y = -2x - 1$

ELO Paper Evidence

4



TOPIC ID: 17EV-C2.Ø	TOPIC TITLE: GRAPHING A LINE WITH THE SLOPE INTERCEPT FORM	FORESTHILL HIGH SCHOOL
NAME:	BLOCK: ALL DATE:	

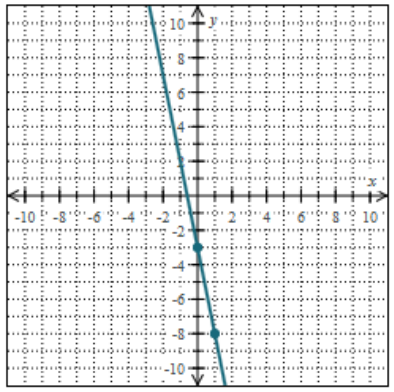
LEARNING PAPER EVIDENCE

LEARNING PAPER EVIDENCE

COMPARING PROPERTIES OF LINEAR FUNCTIONS GIVEN IN DIFFERENT FORMS

Four different linear functions are represented below.

Function 1



Function 2

x	y
-2	10
-1	7
0	4
1	1
2	-2

Function 3

$y = 4x + 1$

Function 4

The slope is 1 and the y-intercept is -5.

Answer the following questions.

(a) Which functions have graphs with slopes less than 2? (Check all that apply.)

☐ Function 1 ☐ Function 2 ☐ Function 3 ☐ Function 4

(b) Which function has the graph with a y-intercept closest to 0?

○ Function 1 ○ Function 2 ○ Function 3 ○ Function 4

(c) Which function has the graph with the greatest y-intercept?

○ Function 1 ○ Function 2 ○ Function 3 ○ Function 4

(1) ELO PAPER EVIDENCE

FUNCTION	SLOPE (m)	y-INT. b =
1: GRAPH	$\frac{-8-(-3)}{1-0} = \frac{-5}{1} = -5$	(0, −3), so b = −3
2: TABLE	$\frac{4-7}{0-(-1)} = \frac{-3}{1} = -3$	(0, 4), so b = 4
3: $y = 4x+1$	m = 4	b = 1
4: WORDS	m = 1	b = −5

(a) FCN. 1, 2, 4

(b) FCN. 3

(c) FCN. 2

TOPIC ID: 18EV-C2.0	TOPIC TITLE: COMPARING DIFFERENT LINEAR FUNCTION FORMS	FORESTHILL HIGH SCHOOL
NAME:	BLOCK: ALL DATE:	

LEARNING PAPER EVIDENCE

WRITING THE EQUATION OF A LINE THROUGH TWO GIVEN POINTS

Find an equation for the line that passes through the points (-1, 2) and (3, 4)

ELO PAPER EVIDENCE

(1) FIND 'm' $\frac{4-2}{3-(-1)} = \frac{2}{4} = \frac{1}{2} \Rightarrow m = \frac{1}{2}$

FIND 'b' USING $(-1, 2) \rightarrow b = y - mx$

$b = 2 - \frac{1}{2}(-1)$

$b = 2 + \frac{1}{2} = \frac{4}{2} + \frac{1}{2} = \frac{5}{2}$

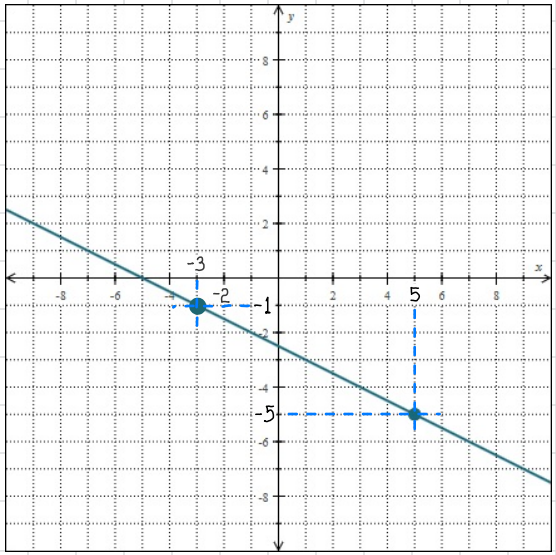
$b = \frac{5}{2}$

EQUATION $y = \frac{1}{2}x + \frac{5}{2}$

CHECK $4 = \frac{1}{2}(3) + \frac{5}{2}$

$4 = \frac{3}{2} + \frac{5}{2} = \frac{8}{2} = 4$

Find an equation for this line:



ELO PAPER EVIDENCE

(2) FIND 'm' $\frac{-5-(-1)}{5-(-3)} = \frac{-4}{8} = -\frac{1}{2} \Rightarrow m = -\frac{1}{2}$

FIND 'b' USING $(-3, -1) \rightarrow b = y - mx$

$b = -1 - \left[-\frac{1}{2}(-3)\right]$

$b = -1 - \left[\frac{3}{2}\right] = -1 - \frac{3}{2} = -\frac{2}{2} - \frac{3}{2} = -\frac{5}{2}$

$b = -\frac{5}{2}$

EQUATION $y = -\frac{1}{2}x - \frac{5}{2}$

CHECK $-5 = -\frac{1}{2}(5) - \frac{5}{2}$

$-5 = -\frac{5}{2} - \frac{5}{2} = -5$

TOPIC ID: 19EV-C2.Ø	TOPIC TITLE: WRITING EQ. OF A LINE THRU TWO GIVEN POINTS	
NAME:	BLOCK: ALL	DATE:

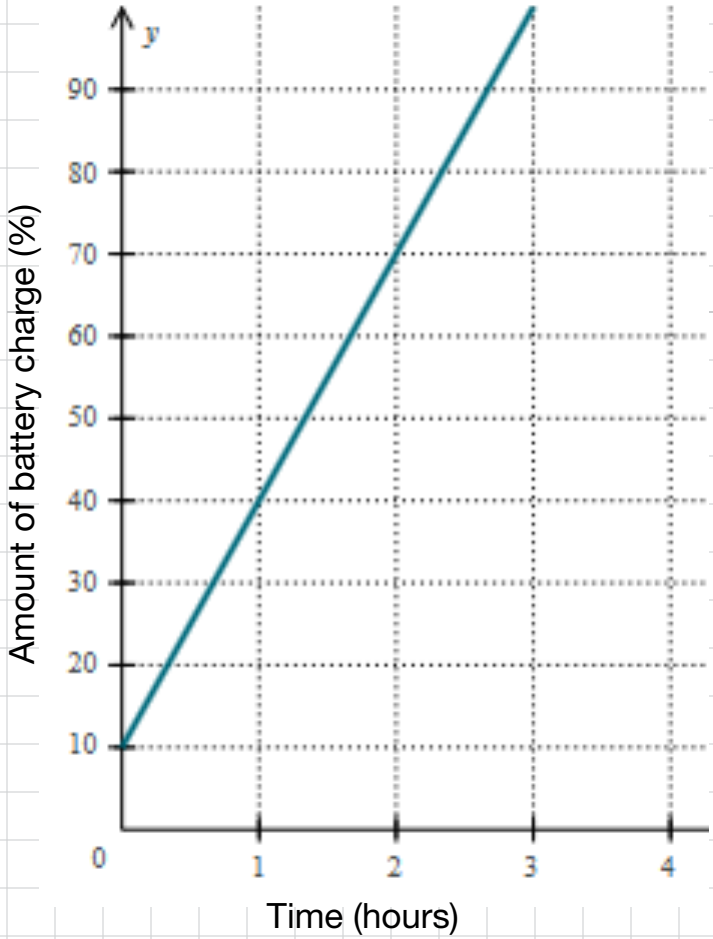
FORESTHILL HIGH SCHOOL

LEARNING PAPER EVIDENCE

WRITING A LINEAR EQUATION THAT MODELS A SITUATION GIVEN A GRAPH OR TABLE

Ravi is charging his tablet. As the tablet charges, the amount of battery charge increases at a constant rate. The graph shows the linear relationship between the time 'x' (in hours) since the tablet began charging and the amount of battery charge 'y' (as a percentage).

Write a linear equation to represent the relationship between 'x' and 'y'.



(1) ELO PAPER EVIDENCE

FIND SLOPE (m) = 30

$$\frac{40-10}{1-0} = \frac{30}{1} = 30$$

FIND 'b' USING (0, 10) ∴ b = 10

EQUATION: $y = 30x + 10$

TOPIC ID: 21EV-C2.0	TOPIC TITLE: SITUATION MODELING WITH LINEAR EQUATIONS	FORESTHILL HIGH SCHOOL
NAME:	BLOCK: ALL / DATE:	

LEARNING PAPER EVIDENCE

LINEAR RELATIONSHIP AND THE CORRELATION COEFFICIENT

Shown below are the scatter plots for four different data sets.

Answer the questions that follow. The same response may be the correct answer for more than one question.

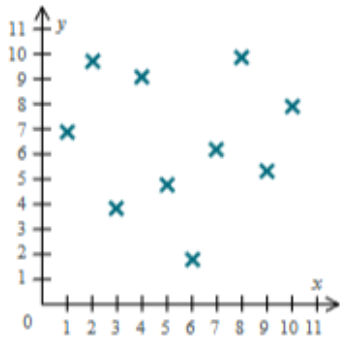


Figure 1

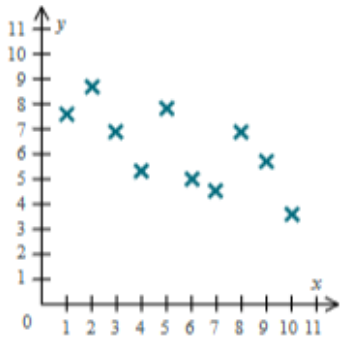


Figure 2

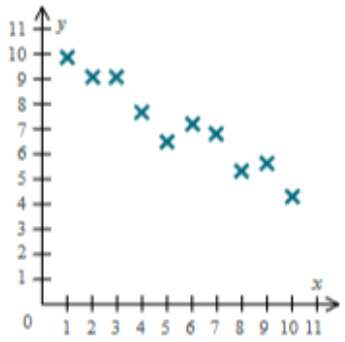


Figure 3

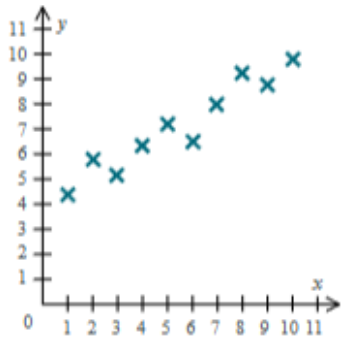


Figure 4

1. For which data set is the correlation coefficient *r* closest to -1?
2. Which data set indicates the strongest positive linear relationship between its two variables?
3. For which data set is the correlation coefficient *r* closest to 0?

(1) ELO PAPER EVIDENCE

1. FIG. 3: POINTS FOLLOW A DOWNWARD LINE MOST CLOSELY
2. FIG. 4: POINTS CLOSELY FOLLOW AN UPWARD LINE
3. FIG. 1: POINTS SHOW NO CLEAR STRAIGHT-LINE PATTERN

TOPIC ID: 22EV-C2.Ø	TOPIC TITLE: LINEAR RELATIONSHIP AND THE CORRELATION COEFFICIENT		FORESTHILL HIGH SCHOOL
NAME:		BLOCK: ALL	DATE:

LEARNING PAPER EVIDENCE