

Score: _____

NAME: Key

Algebra 1 Semester 1

Assessment Training Practice #1A

- 1.) If
- $f(x) = -2x + 2$
- then find
- $f\left(\frac{1}{2}\right)$
- .

$$\begin{aligned} f\left(\frac{1}{2}\right) &= -2\left(\frac{1}{2}\right) + 2 \\ &= -1 + 2 \\ &= \textcircled{1} \end{aligned}$$

- 2.) If
- $g(x) = -x^2 + 5x$
- , then find
- $g(-12)$
- .

$$\begin{aligned} g(-12) &= -(-12)^2 + 5 \cdot -12 \\ &= -144 + -60 \\ &= \textcircled{-204} \end{aligned}$$

- 3.) Evaluate
- $|-x - 2y|$
- for
- $x = -2$
- and
- $y = 3$
- .

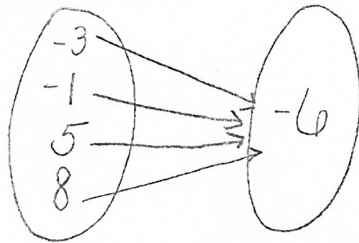
$$\begin{aligned} &| -(-2) - 2 \cdot 3 | \\ &| 2 - 6 | \\ &| -4 | = \textcircled{4} \end{aligned}$$

- 4.) Given the following relation, what is the domain and range?

 $\{(-2, 4), (-2, 0), (6, 5), (0, -2)\}$ Domain: $\{-2, 0, 6\}$ Range: $\{-2, 0, 4, 5\}$

- 5.) Make a mapping diagram that represents the relation and determine whether the relation is a function.

$\{(-3, -6), (-1, -6), (5, -6), (8, -6)\}$

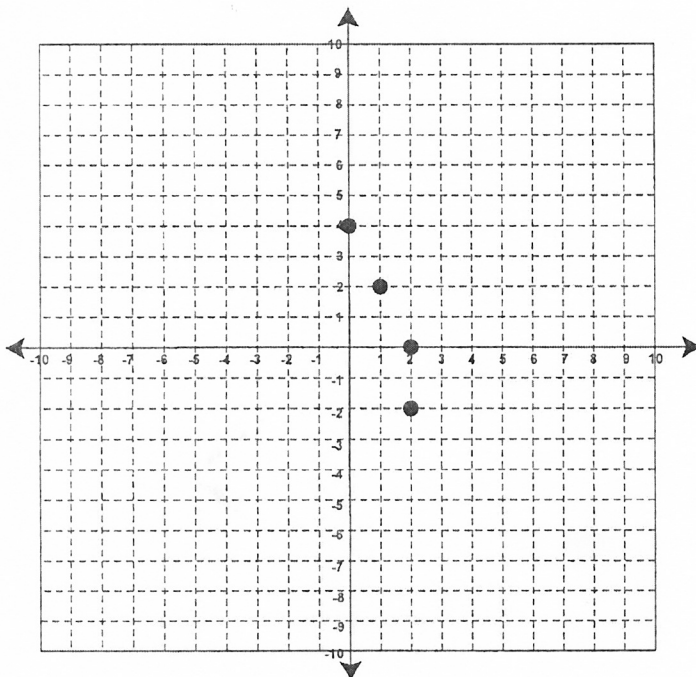


Is the relation a function? Explain.

The relation is a function because each of the inputs has exactly one output.

- 6.) What is the domain and range of the relation shown? Is the relation a function? Explain.

List the points: $\{(0, 4), (1, 2), (2, 0), (2, -2)\}$



Domain: $\{0, 1, 2\}$

Range: $\{-2, 0, 2, 4\}$

Is the relation a function? Explain.

No because the x input of 2 has more than 1 output.
 $(2, 0)$ and $(2, -2)$

- 7.) Find the domain and range of the relation. Is the relation a function? Explain.

Number of Identical Notebooks	Regular Cost of Notebooks (No Discounts)
7	5.53
2	1.58
5	3.95
3	2.37

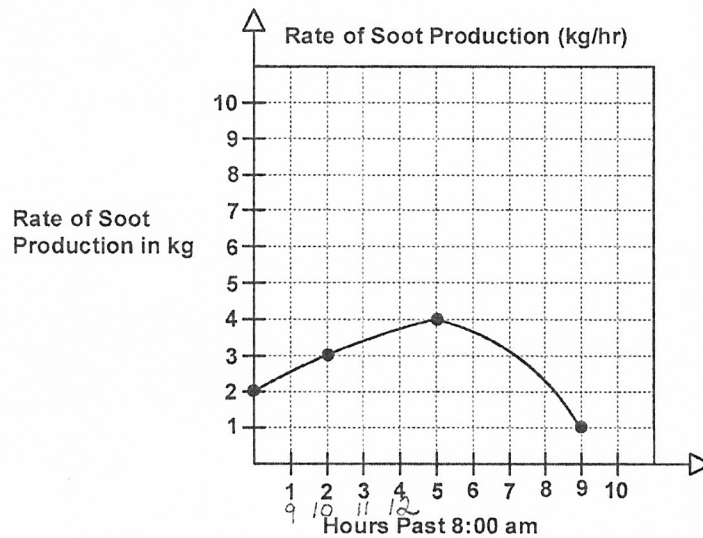
Domain: $\{2, 3, 5, 7\}$

Range: $\{1.58, 2.37, 3.95, 5.53\}$

Is the relation a function? Explain. Yes because for each input, there is exactly one output.

- 8.) The graph represents how much soot is produced by a certain factory beginning at 8 am.

List the points: $(0, 2)$ $(2, 3)$ $(5, 4)$ $(9, 1)$



a.) Domain: $[0, 9]$ Range: $[1, 4]$

b.) How much soot is the factory producing at noon? about 3.7 Kg

- 9.) Given the function, $T(s) = -\frac{1}{2}s + 4\frac{1}{2}$, where T is the time it takes to decorate the gym for a dance and s is the number of students on the decorating committee, answer the following:

a.) What is a reasonable domain for this function?

$\{1, 2, 3, 4, 5, 6, 7, 8\}$

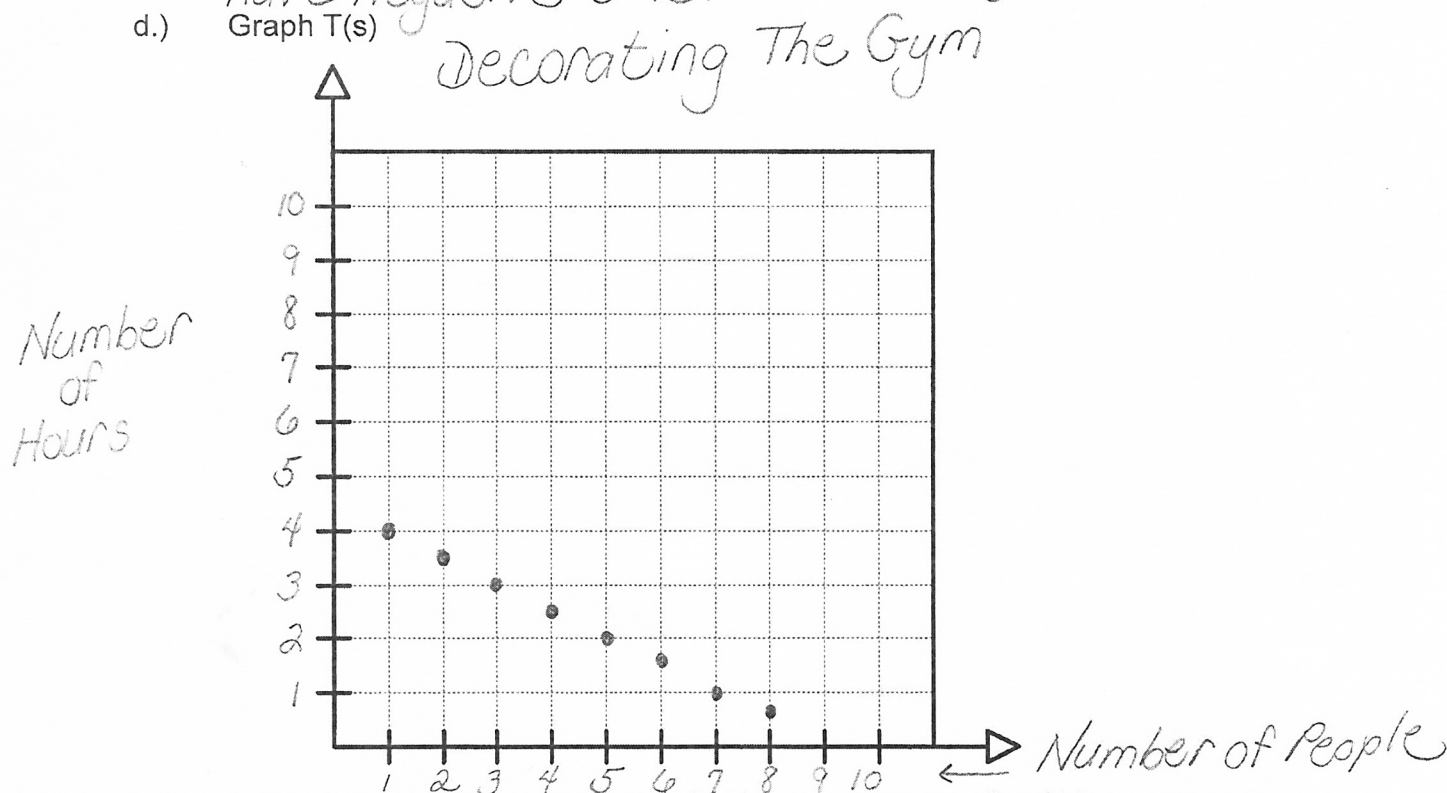
b.) Find $T(12)$

$$\begin{aligned} T(12) &= -\frac{1}{2}(12) + 4\frac{1}{2} \\ &= -6 + 4\frac{1}{2} \\ &= -1\frac{1}{2} \end{aligned}$$

c.) Does this value of y make sense in the context of this problem? Why or why not?

The y value represents time therefore $-1\frac{1}{2}$ does not make sense because you cannot have negative time.

d.) Graph $T(s)$

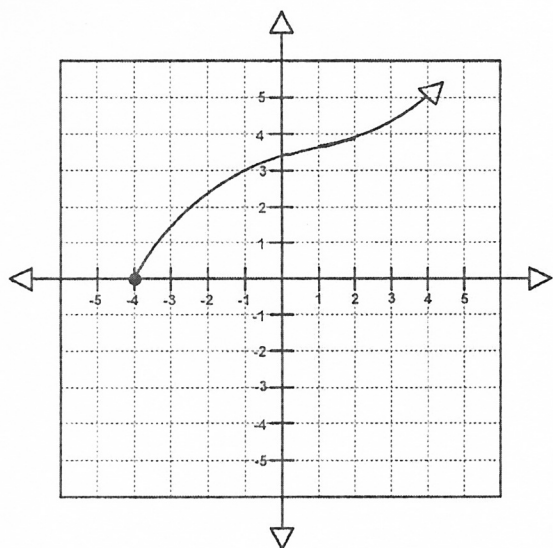


e.) Is this data discrete or continuous? Make your explanation fit the context.

The data is discrete, which means I cannot connect the points. If the points are connected, implying continuous data, then the graph would show that we can have a fractional part of a person.

10.) Determine if the relation is a function. State the domain and range of each graph.

a.)



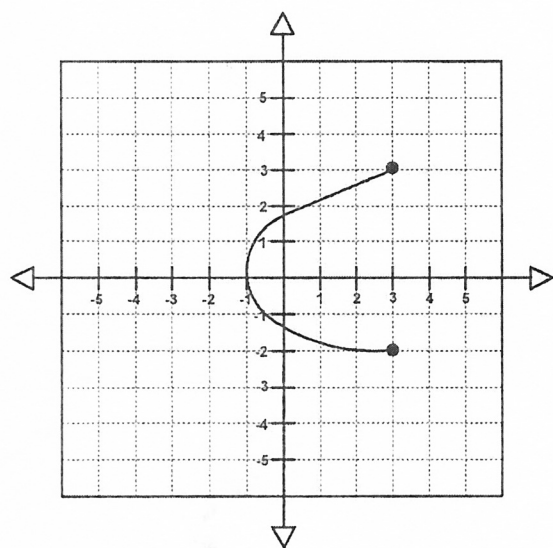
Is the relation a function? Explain

Yes because for each input
there is exactly one output.

Domain: $[-4, \infty)$

Range: $[0, \infty)$

b.)



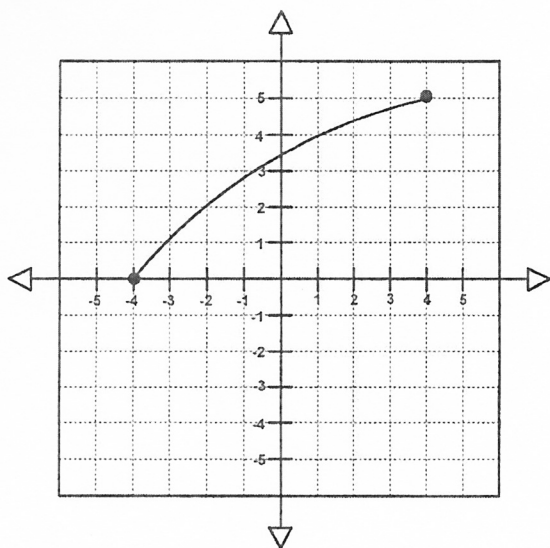
Is the relation a function? Explain

No because the x value of
3 has two different outputs
 $(3, 3)$ and $(3, -2)$. This was just
one example. There are more
examples

Domain: $[-1, 3]$

Range: $[-2, 3]$

c.)



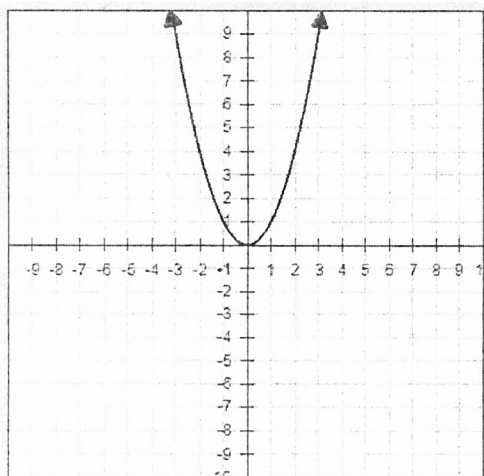
Is the relation a function? Explain

Yes because each input has exactly one output.

Domain: $[-4, 4]$

Range: $[0, 5]$

d.)



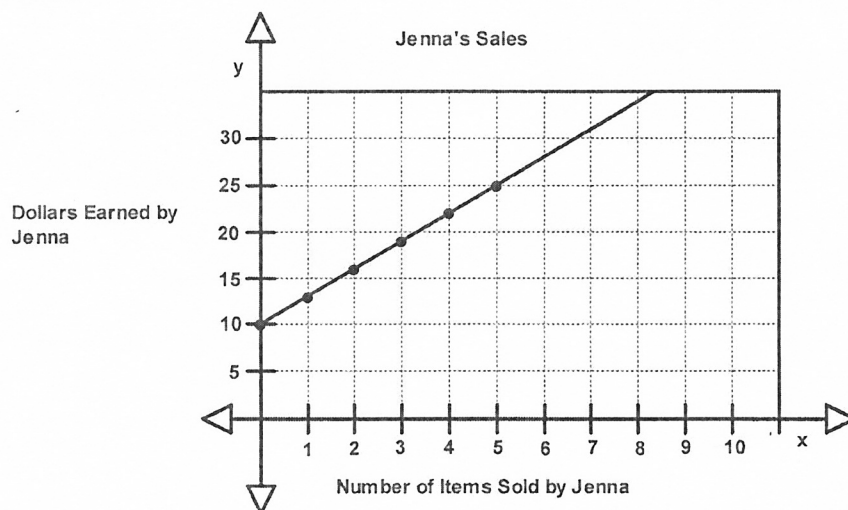
Is the relation a function? Explain

Yes because each input has exactly one output.

Domain: $(-\infty, \infty)$

Range: $[0, \infty)$

- 11.) Jenna works at a retail shop. She makes a flat rate of \$10 per day at work, plus \$3 for each item she sells.



- a.) Explain why the graph represents this function.

Jenna begins at \$10 since that is the amount she makes when she does not sell any items. Then each time, Jenna sells an item, the graph increases by 3 which is the constant rate of change.

- b.) Write an equation for this graph.

$$y = 3x + 10$$

- 12.) Decide whether the following are rational or irrational.

- | | | | | |
|-----|--|-----------------|----|-------------------|
| a.) | 2π | Rational | or | <u>Irrational</u> |
| b.) | $3\sqrt{4}$ | <u>Rational</u> | or | Irrational |
| c.) | $\sqrt{5}$ | Rational | or | <u>Irrational</u> |
| d.) | $\frac{2}{3} \cdot 3\frac{\sqrt{25}}{2}$ | <u>Rational</u> | or | Irrational |
| e.) | $\frac{2}{3}$ | <u>Rational</u> | or | Irrational |
| f.) | $(\sqrt{7})^2$ | <u>Rational</u> | or | Irrational |