

S-AZ Algebra 2 Session 5

$$2|3 + 8v| + 6 = 4v - 10$$

-6 -6

$$\frac{2|3 + 8v|}{2} = \frac{4v - 16}{2}$$

$$|3 + 8v| = 2v - 8$$

$$3 + 8v = 2v - 8$$

-2v -2v

$$3 + 6v = -8$$

-3 -3

$$\frac{6v}{6} = \frac{-11}{6}$$

$$v = -\frac{11}{6}$$

if "answer" makes the right side negative, not a solution

$$3 + 8v = -(2v - 8)$$

$$3 + 8v = -2v + 8$$

+2v +2v

$$3 + 10v = 8$$

-3 -3

$$\frac{10v}{10} = \frac{5}{10}$$

$$v = \frac{1}{2}$$

- 1.) Isolate absolute value
- 2.) Check for a negative constant only

- 3.) Rewrite absolute value expression equal to \oplus and \ominus

- 4.) Solve each.

- 5.) Check if the right side is negative.

$$2v - 8 \quad 2v - 8$$

$$2\left(-\frac{11}{6}\right) - 8 \quad 2\left(\frac{1}{2}\right) - 8$$

$$-\frac{11}{3} - 8 = \ominus \quad 1 - 8 = -7$$

No solution "ns"

$$2.) \quad |9x - 9| + 7 = 70$$

$$\begin{array}{c} (63) \\ \downarrow \\ | \\ \downarrow \\ (-63) \\ \downarrow \\ = 63 \end{array}$$

$$|9x - 9| = 63$$

$$|63| = 63$$

$$|-63| = 63$$

No check is necessary...
there is no variable
on the right side.

$$9x - 9 = 63$$

$$+9 \quad +9$$

$$\frac{9x}{9} = \frac{72}{9}$$

$$x = 8$$

$$9x - 9 = -63$$

$$+9 \quad +9$$

$$\frac{9x}{9} = \frac{-54}{9}$$

$$x = -6$$

$$3.) \quad 6 |6 - 10m| + 8 = 6m - 88$$

$$\frac{6 |6 - 10m|}{6} = \frac{6m - 96}{6}$$

$$|6 - 10m| = m - 16$$

Check \downarrow
 $m - 16$
 $m = -\frac{10}{9}$
 $\frac{-10}{9} - 16 = \ominus$

$$\begin{array}{c} (m=2) \\ 2-16 \\ -14 \end{array}$$

$$6 - 10m = m - 16$$

$$+10m \quad +10m$$

$$6 = 11m - 16$$

$$+16 \quad +16$$

$$\frac{22}{11} = \frac{11m}{11}$$

$$m = 2$$

$$m = -\frac{10}{9}$$

$$6 - 10m = -(m - 16)$$

$$6 - 10m = -m + 16$$

$$+10m \quad +10m$$

$$6 = 9m + 16$$

$$-16 \quad -16$$

$$-10 = \frac{9m}{9}$$

No solution

$$-4 + |-7p - 3| \leq 62$$

+4

+4

$$|-7p - 3| \leq 66$$

flip inequality
and
take opposite

$$-7p - 3 \leq 66$$

+3 +3

$$-7p - 3 \geq -66$$

+3 +3

$$\frac{-7p}{-7} \geq \frac{-63}{-7}$$

$$p \leq 9$$

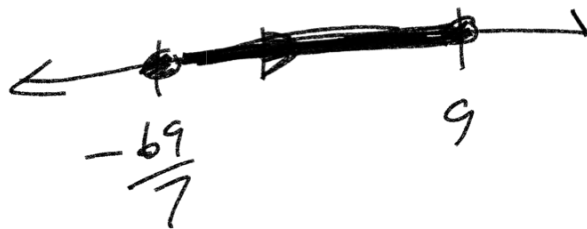
flip

because you divide by a negative!

flip

$$\frac{-7p}{-7} \leq \frac{69}{-7}$$

$$p \geq \frac{-69}{7}$$



Favorite Food

Favorite Food	#
Kabob	12
Apples	8
Mac N' Cheese	18
Curry	10
Pizza	32
<u>total</u>	<u>80</u>

$$P(\text{Kabob}) = \frac{12 \div 4}{80 \div 4} = \frac{3}{20}$$

P(Apples or Curry)

$$\frac{8 + 10}{80} = \frac{18 \div 2}{80 \div 2} = \frac{9}{40}$$

P(not pizza)

$$\frac{80 - 32}{80} = \frac{48 \div 16}{80 \div 16} = \frac{3}{5}$$

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Kabob	12
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Pizza	32
<u>total</u>	<u>80</u>

$P(\text{Mac N' Cheese and then Pizza with replacement})$

$$\begin{array}{l} \text{Mac} \\ \downarrow \\ \frac{18 \div 2}{80 \div 2} = \frac{9}{40} \end{array} \quad \begin{array}{l} \text{Pizza} \\ \downarrow \\ \frac{32 \div 16}{80 \div 16} = \frac{2}{5} \end{array}$$

$$\frac{9}{40} * \frac{2}{5} = \frac{9}{100}$$

<u>Favorite Food</u>	<u>#</u>
Kabob	12
Apples	8
Mac N' Cheese	18
Curry	10
Pizza	32
<u>total</u>	<u>80</u>

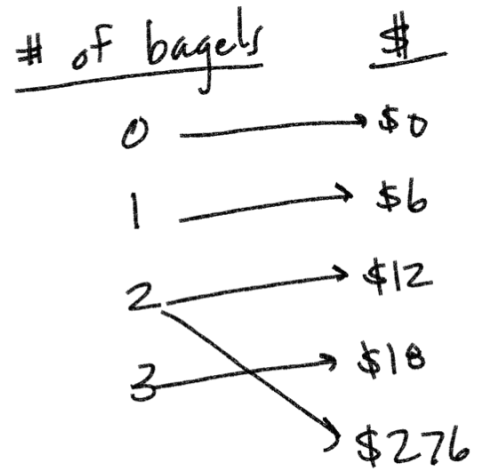
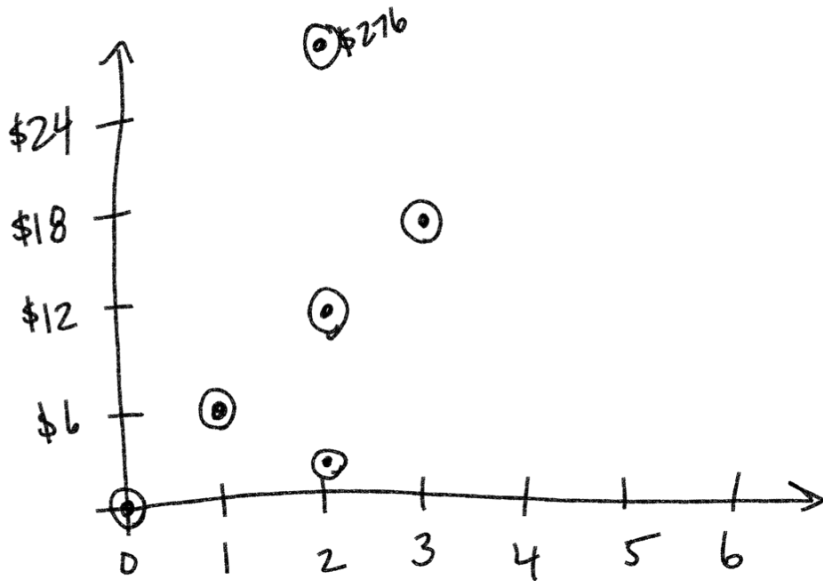
$P(\text{Apples and then Kabob without replacement})$

$$\begin{array}{l} \text{Apples} \\ \downarrow \\ \frac{8 \div 8}{80 \div 8} = \frac{1}{10} \end{array} \quad \begin{array}{l} \text{Kabob} \\ \downarrow \\ \frac{12}{79} \end{array}$$

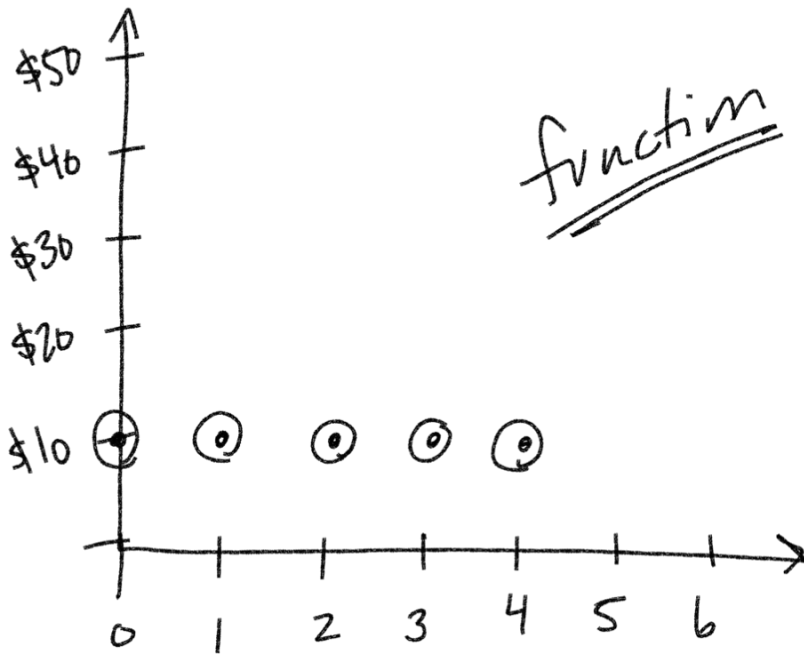
$$\frac{1}{10} * \frac{12}{79} = \frac{6}{395}$$

Functions → Predictable

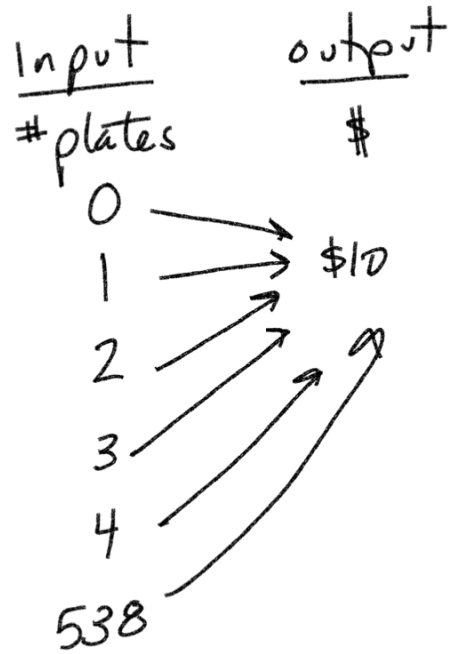
Each input has one and only one output



Not a function



function



<u>input</u>	<u>output</u>
x	y
1	8
2	10
3	12
4	

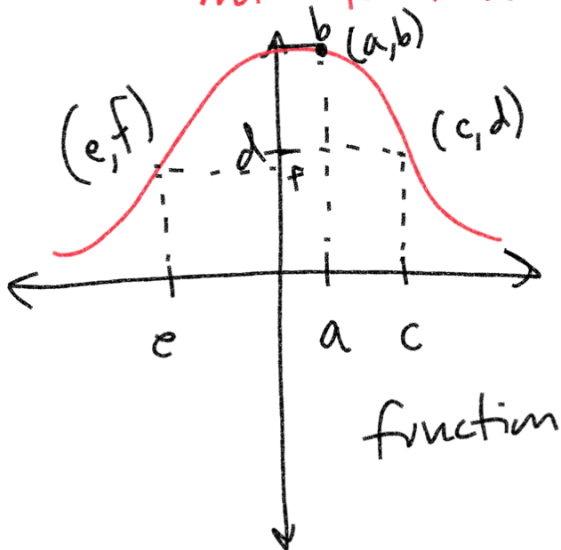
function

Each input has one, and only one, output

- 1.) $(1, 2), (2, 6), (3, 8)$
function

- 2.) $(2, 8), (3, 12), (3, 6), (4, 14)$

not function



function

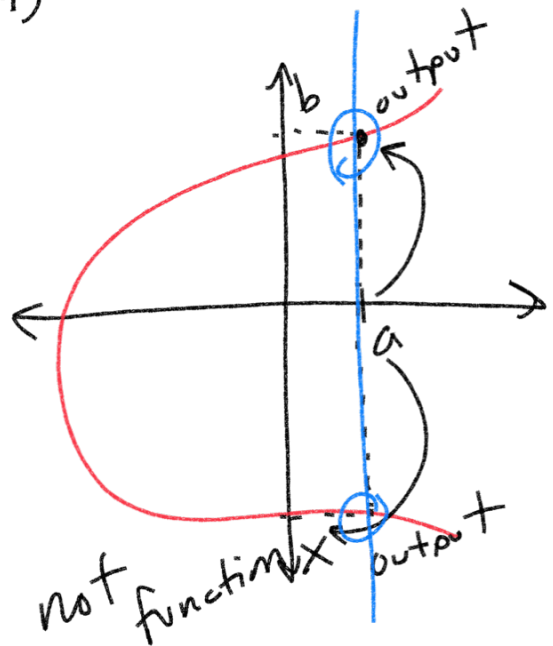
<u>input</u>	<u>output</u>
x	y
1	8
2	10
3	12
3	10

Not function

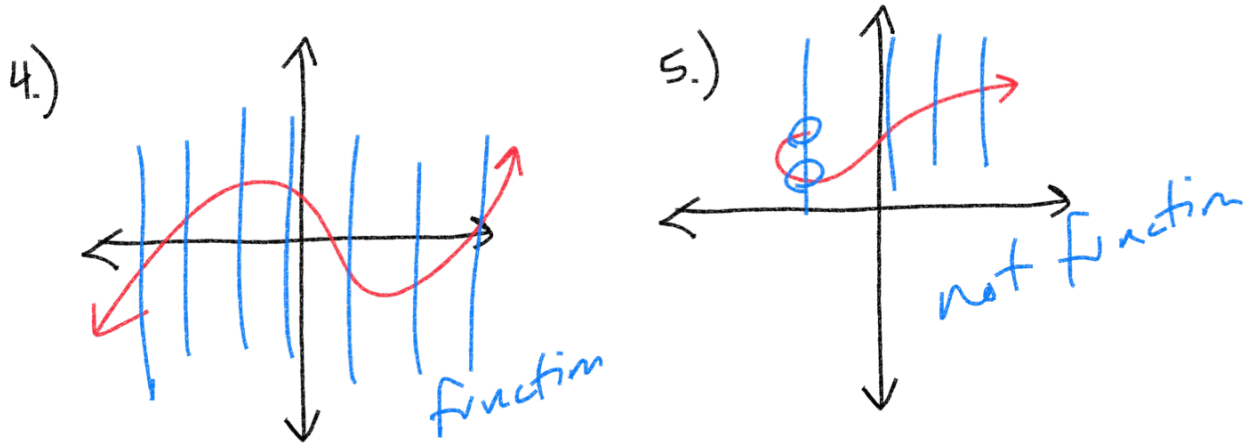
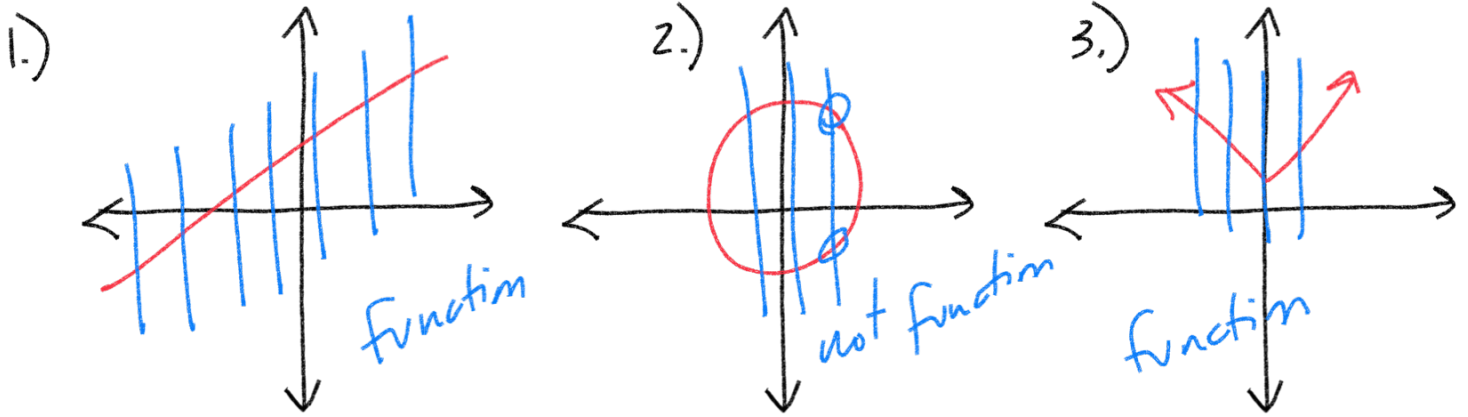
one input has two outputs

(x, y)
↑ ↓
input output

vertical line



not function



$x \ y$ $x \ y$ $x \ y$ $x \ y$
 $(-1, 8), (-3, 8), (-5, 8), (7, 8)$

Domain (x values) $\{-1, -3, -5, 7\}$

Range (y values) $\{8\}$

$x \ y$ $x \ y$ $x \ y$ $x \ y$
 $(0, 7), (1, 9), (2, 11), (3, 13)$

Domain: $\{0, 1, 2, 3\}$

Range: $\{7, 9, 11, 13\}$