

5-Minute Check

Transparency 4-4

- Express the relation $\{(-1, 0), (2, -4), (-3, 1), (4, -3)\}$ as a table, a graph, and a mapping. Then determine the domain and range.

- Write the inverse of the relation.

$\{(5, -2), (0, 3), (2, 1), (-4, 3)\}$

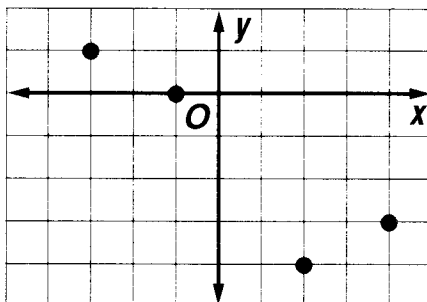
- Jason, a waiter, expressed his customers' bills and the tips they left him as the relation $\{(10, 2), (8, 1.5), (4, 1.25)\}$. Express the relation as a table.

- Standardized Test Practice** Determine the domain and range for the relation $\{(3, -1), (2, 3), (4, 0), (-1, -2)\}$.

ANSWERS

- $D = \{-3, -1, 2, 4\}; R = \{-4, -3, 0, 1\}$

x	y
-1	0
2	-4
-3	1
4	-3



- $\{(-2, 5), (3, 0), (1, 2), (3, -4)\}$

3.

bills	tips
\$10	\$2
\$8	\$1.50
\$4	\$1.25

- $D = \{-1, 2, 3, 4\}; R = \{-2, -1, 0, 3\}$

Ch. 4-4 EQUATIONS AS RELATIONS

THE SOLUTION OF AN EQUATION IN TWO VARIABLES IS AN ORDERED PAIR WHICH, WHEN SUBSTITUTED INTO THE ORIGINAL EQUATION RESULTS IN A TRUE STATEMENT.

EX) $y = 2x$ IS $(3, 6)$ A SOLUTION?

x, y

CK $() \stackrel{?}{=} 2()$

$(6) \stackrel{?}{=} 2(3) \checkmark$

IF YOU KNOW THE DOMAIN, YOU CAN FIND ALL SOLUTIONS, USE A T TABLE.

EX) domain is $\{1, 2, 3\}$ $y = 2x$

x	$y = 2x$	(x, y)
1	$y = 2()$	$(1, 2)$
2	$y = 2()$	$(2, 4)$
3	$y = 2()$	$(3, 6)$

If the domain is given, you would like your equation in the form $y = \{ \text{SOMETHING WITH } x\text{'S AND NUMBERS} \}$

↑
SO YOU CAN SUBSTITUTE YOUR DOMAIN VALUES AND FIND THE y , OR RANGE THAT GOES WITH IT.

Can you solve $4x + 2y = 10$ to get y by itself?

$$\begin{array}{r} 4x + 2y = 10 \\ -4x \qquad \qquad -4x \end{array}$$

$$\frac{2y}{2} = \frac{-4x + 10}{2}$$

$$\boxed{y = -2x + 5}$$

3

Solve for y

$$-x + y = 8$$

$$5x + y = 20$$

Solve $2x + y = 12$ if the domain is $\{0, 1, 2, 3\}$. Graph the solution set

$$\begin{array}{rcl} 2x + y & = & 12 \\ -2x & & -2x \end{array}$$

$$y = -2x + 12$$

x	$y = -2x + 12$	(x, y)
0	$y = -2(0) + 12$	(0, 12)
1	$y = -2(1) + 12$	(1, 10)
2	$y = -2(2) + 12$	(2, 8)
3	$y = -2(3) + 12$	(3, 6)

Groupwork / homework:

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