

**SOL Warm-Up**  
**Graphing Calculator Active**

**A.11 (a)** Analyzing a table of ordered pairs for the existence of a pattern

1. Which of the following equations best describes the data in this table?

<b>x</b>	-2	-1	0	1	2
<b>y</b>	5	6	7	8	9

- A**  $y = x + 7$
- B**  $y = -x - 7$
- C**  $y = x - 7$
- D**  $y = -x + 7$

2. Which of the following data sets is best described by  $y = -3x + 4$ ?

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>
<b>y</b>	<b>y</b>	<b>y</b>	<b>y</b>
-2	-2	-2	-2
-1	-1	-1	-1
0	0	0	0
1	1	1	1
2	2	2	2
2	2	-10	-10
-1	1	7	7
-4	4	4	-4
-7	7	1	-1
-10	10	-2	2

**SOL Warm-Up**  
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**A.11 (b)** Analyzing a table of ordered pairs for the existence of a pattern

1. Which of the following sets of data is best described by  $y = \frac{1}{2}x - 1$ ?

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>																																																
<table border="1" style="border-collapse: collapse; text-align: center;"><thead><tr><th>x</th><th>y</th></tr></thead><tbody><tr><td>-5</td><td>-3.5</td></tr><tr><td>-1</td><td>-1.5</td></tr><tr><td>0</td><td>-1</td></tr><tr><td>1</td><td>-.5</td></tr><tr><td>5</td><td>-1</td></tr></tbody></table>	x	y	-5	-3.5	-1	-1.5	0	-1	1	-.5	5	-1	<table border="1" style="border-collapse: collapse; text-align: center;"><thead><tr><th>x</th><th>y</th></tr></thead><tbody><tr><td>-4</td><td>-3</td></tr><tr><td>0</td><td>-1</td></tr><tr><td>2</td><td>0</td></tr><tr><td>6</td><td>2</td></tr><tr><td>9</td><td>3.5</td></tr></tbody></table>	x	y	-4	-3	0	-1	2	0	6	2	9	3.5	<table border="1" style="border-collapse: collapse; text-align: center;"><thead><tr><th>x</th><th>y</th></tr></thead><tbody><tr><td>-3</td><td>-2.5</td></tr><tr><td>-1</td><td>1.5</td></tr><tr><td>0</td><td>-1</td></tr><tr><td>3</td><td>.5</td></tr><tr><td>7</td><td>3</td></tr></tbody></table>	x	y	-3	-2.5	-1	1.5	0	-1	3	.5	7	3	<table border="1" style="border-collapse: collapse; text-align: center;"><thead><tr><th>x</th><th>y</th></tr></thead><tbody><tr><td>-3</td><td>-7</td></tr><tr><td>-2</td><td>-5</td></tr><tr><td>0</td><td>-1</td></tr><tr><td>4</td><td>7</td></tr><tr><td>8</td><td>17</td></tr></tbody></table>	x	y	-3	-7	-2	-5	0	-1	4	7	8	17
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2. Which of the following equations best represents the following pattern?

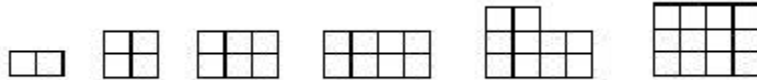


- A**  $y = x$
- B**  $y = x^2$
- C**  $y = x^3$
- D**  $y = x^4$

## SOL Warm-Up Graphing Calculator Active

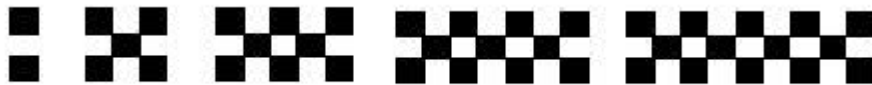
**A.11 (c)** Analyzing a table of ordered pairs for the existence of a pattern?

1. Which of the following equations best represents the following pattern?



- A**  $y = 2x$
- B**  $y = 2x + 4$
- C**  $y = 2x + 1$
- D**  $y = 2x - 1$

2. Which of the following equations best represents the following pattern?



- A**  $y = 3x$
- B**  $y = 3x + 4$
- C**  $y = 3x + 1$
- D**  $y = 3x - 1$

## SOL Warm-Up Graphing Calculator Active

### A.11 (d) Writing a linear equation to represent patterns

1. Which equation best represents the following pattern?

$$\{-7, 1, 9, 17, 25, 33, \dots\}$$

- A  $y = 8x + 7$
- B  $y = 8x - 7$
- C  $y = 8x - 15$
- D  $y = 8x + 15$

2. Which equation best represents the following pattern?

$$\{-7, -11, -15, -19, -23, -27, \dots\}$$

- A  $y = -4x + 3$
- B  $y = -4x - 3$
- C  $y = 4x - 3$
- D  $y = 4x + 3$

3. Which equation best represents the following pattern?

- A  $y = x + 3$
- B  $y = -3x$
- C  $y = 3x$
- D  $y = 3x + 3$



4. Which equation best represents the following pattern?

- A  $y = 3x$
- B  $y = 3x + 1$
- C  $y = 3x - 1$
- D  $y = 3x + 2$



## SOL Warm-Up

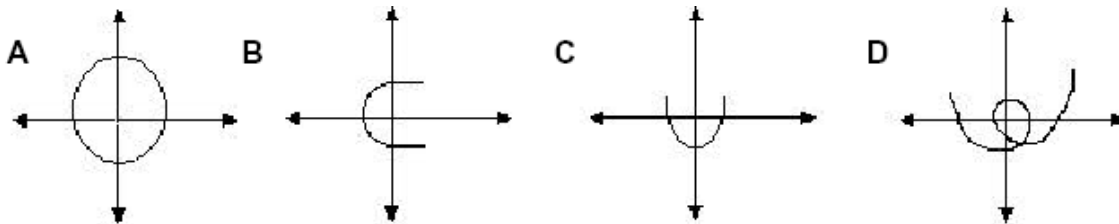
### Graphing Calculator Active

#### A.7a (a) Determining whether a relation is a function.

1. Which of the following is a function?

<b>A</b> <table style="border-collapse: collapse; margin-left: 10px;"> <thead> <tr> <th style="border-right: 1px solid black; border-bottom: 1px solid black; padding: 2px 5px;">x</th> <th style="border-bottom: 1px solid black; padding: 2px 5px;">y</th> </tr> </thead> <tbody> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">1</td><td style="padding: 2px 5px;">12</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">5</td><td style="padding: 2px 5px;">17</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">-9</td><td style="padding: 2px 5px;">19</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">-5</td><td style="padding: 2px 5px;">42</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">-9</td><td style="padding: 2px 5px;">43</td></tr> </tbody> </table>	x	y	1	12	5	17	-9	19	-5	42	-9	43	<b>B</b> <table style="border-collapse: collapse; margin-left: 10px;"> <thead> <tr> <th style="border-right: 1px solid black; border-bottom: 1px solid black; padding: 2px 5px;">x</th> <th style="border-bottom: 1px solid black; padding: 2px 5px;">y</th> </tr> </thead> <tbody> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">2</td><td style="padding: 2px 5px;">19</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">6</td><td style="padding: 2px 5px;">-17</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">-8</td><td style="padding: 2px 5px;">-18</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">-4</td><td style="padding: 2px 5px;">2</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">-3</td><td style="padding: 2px 5px;">-17</td></tr> </tbody> </table>	x	y	2	19	6	-17	-8	-18	-4	2	-3	-17	<b>C</b> <table style="border-collapse: collapse; margin-left: 10px;"> <thead> <tr> <th style="border-right: 1px solid black; border-bottom: 1px solid black; padding: 2px 5px;">x</th> <th style="border-bottom: 1px solid black; padding: 2px 5px;">y</th> </tr> </thead> <tbody> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">3</td><td style="padding: 2px 5px;">6</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">-7</td><td style="padding: 2px 5px;">-3</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">-7</td><td style="padding: 2px 5px;">-9</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">-3</td><td style="padding: 2px 5px;">-12</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">-1</td><td style="padding: 2px 5px;">11</td></tr> </tbody> </table>	x	y	3	6	-7	-3	-7	-9	-3	-12	-1	11	<b>D</b> <table style="border-collapse: collapse; margin-left: 10px;"> <thead> <tr> <th style="border-right: 1px solid black; border-bottom: 1px solid black; padding: 2px 5px;">x</th> <th style="border-bottom: 1px solid black; padding: 2px 5px;">y</th> </tr> </thead> <tbody> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">4</td><td style="padding: 2px 5px;">-1</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">8</td><td style="padding: 2px 5px;">-17</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">-6</td><td style="padding: 2px 5px;">-1</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">-2</td><td style="padding: 2px 5px;">-17</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">4</td><td style="padding: 2px 5px;">-7</td></tr> </tbody> </table>	x	y	4	-1	8	-17	-6	-1	-2	-17	4	-7
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2. Which of the following is a function?



3. Which of the following is a function?

- A  $\{(4,1), (4,2), (-3,3), (-2,3), (6,3)\}$
- B  $\{(4,1), (-2,2), (2,3), (4,3), (5,2)\}$
- C  $\{(6,1), (9,2), (12,3), (15,4), (18,5)\}$
- D  $\{(19,1), (20,2), (21,3), (20,1), (19,2)\}$

4. Which of the following is **NOT** a function?

- A  $\{(6,4), (7,4), (8,4), (9,4), (10,4)\}$
- B  $\{(6,1), (8,3), (10,3), (13,1), (19,3)\}$
- C  $\{(6,2), (6,6), (6,10), (6,14), (6,18)\}$
- D  $\{(4,1), (3,2), (2,3), (1,4), (0,5)\}$

## SOL Warm-Up

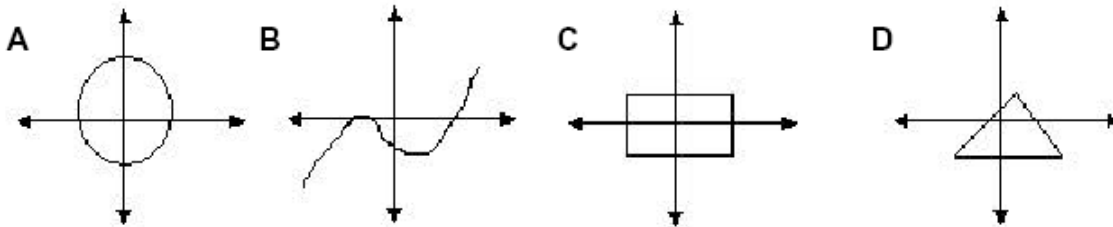
### Graphing Calculator Active

#### A.7a (b) Determining whether a relation is a function

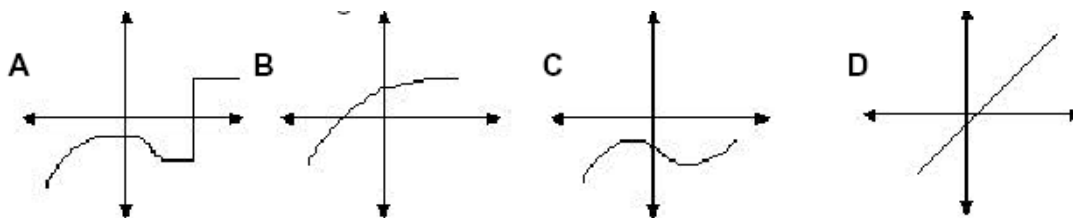
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2. Which of the following is a function?



3. Which of the following is **NOT** a function?



4. Which of the following is **NOT** a function?

- A**  $\{(4,0), (0,-1), (2,0), (1,1), (3,0)\}$
- B**  $\{(1,3), (2,3), (3,6), (4,6), (5,8)\}$
- C**  $\{(3,1), (3,2), (6,3), (6,4), (8,5)\}$
- D**  $\{(6,4), (7,6), (8,4), (9,6), (5,4)\}$

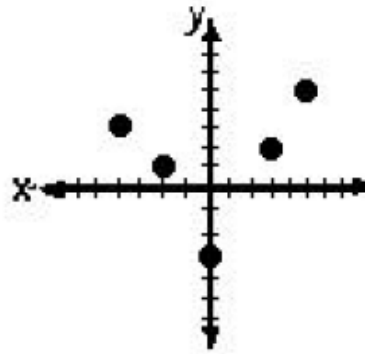
## SOL Warm-Up Graphing Calculator Active

### A.7b (a) Identifying domain and range

Use the graph on the right for problems 1 to 3:

1. What is the domain of the function?

- A  $\{-4, -2, 0, 3, 5\}$
- B  $\{-5, -4, 0, 4, 6\}$
- C  $\{-3, -1, 2, 4\}$
- D  $\{-4, -1, 0, 2, 3\}$



2. What is the range of the function?

- A  $\{-2, 1, 2, 4, 6\}$
- B  $\{-6, 0, 1, 2, 3\}$
- C  $\{-3, 1, 2, 3, 5\}$
- D  $\{-5, -3, -2, 5\}$

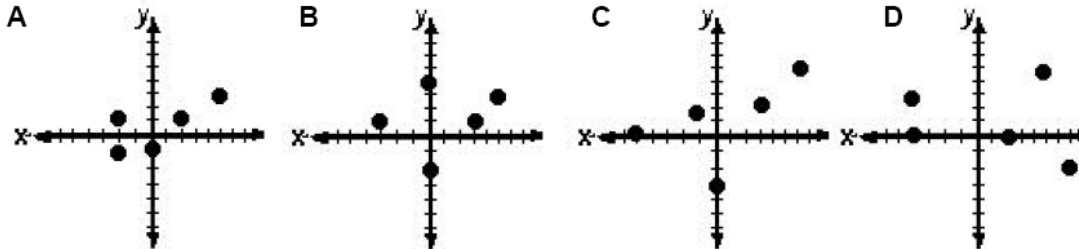
3. What is the value of  $y$  when  $x = -2$ ?

- A 0
- B 1
- C 3
- D 5

## SOL Warm-Up Graphing Calculator Active

### A.7a (c) Identifying whether a relation is a function

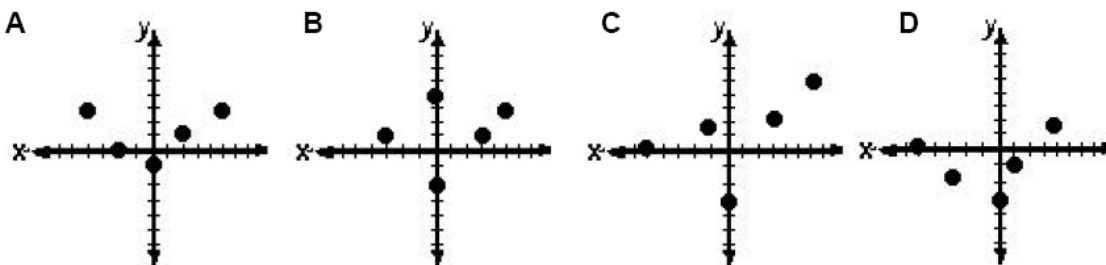
1. Which of the following graphs is a function?



2. Which of the following relations is **not** a function?

- A  $\{(1,-2),(3,-2),(-3,0)\}$
- B  $\{(-3,3),(-2,1),(0,-3)\}$
- C  $\{(-3,3),(-1,1),(0,-3)\}$
- D  $\{-3,3\},(1,-5),(-3,-9)\}$

3. Which of the following relations is **not** a function?



4. Which of the following relations is a function?

A	B	C	D																																						
<table style="border-collapse: collapse;"> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">x</td><td style="padding: 2px 5px;">y</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">-1</td><td style="padding: 2px 5px;">-4</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">0</td><td style="padding: 2px 5px;">3</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">2</td><td style="padding: 2px 5px;">-1</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">-1</td><td style="padding: 2px 5px;">3</td></tr> </table>	x	y	-1	-4	0	3	2	-1	-1	3	<table style="border-collapse: collapse;"> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">x</td><td style="padding: 2px 5px;">y</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">-4</td><td style="padding: 2px 5px;">-1</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">-3</td><td style="padding: 2px 5px;">0</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">-1</td><td style="padding: 2px 5px;">2</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">-1</td><td style="padding: 2px 5px;">1</td></tr> </table>	x	y	-4	-1	-3	0	-1	2	-1	1	<table style="border-collapse: collapse;"> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">x</td><td style="padding: 2px 5px;">y</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">-1</td><td style="padding: 2px 5px;">2</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">0</td><td style="padding: 2px 5px;">3</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">2</td><td style="padding: 2px 5px;">-5</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">0</td><td style="padding: 2px 5px;">0</td></tr> </table>	x	y	-1	2	0	3	2	-5	0	0	<table style="border-collapse: collapse;"> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">x</td><td style="padding: 2px 5px;">y</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">-1</td><td style="padding: 2px 5px;">-1</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">0</td><td style="padding: 2px 5px;">0</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">2</td><td style="padding: 2px 5px;">2</td></tr> </table>	x	y	-1	-1	0	0	2	2
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## SOL Warm-Up Graphing Calculator Active

**A.7e (a)** Finding values of a function for elements in the domain

1. What is  $f(-2)$  when  $f(x) = 2x^2 - 6x + 10$ ?

- A** -20
- B** -10
- C** 6
- D** 30

2. Which table shows the function  $f(x) = -x^2 + 4$ ?

- A**

x	-2	-1	3	4
y	8	5	-2	-4
- B**

x	-2	-1	3	4
y	6	5	1	0
- C**

x	-2	-1	3	4
y	0	3	-5	-12
- D**

x	-2	-1	3	4
y	4	6	-8	-10

3. What are the values of  $f(x) = 2x^2 - x + 1$  when  $x$  is  $\{-2, 0, 2\}$ ?

- A**  $\{11, 1, 7\}$
- B**  $\{-9, -2, 8\}$
- C**  $\{7, -4, 7\}$
- D**  $\{9, 2, 8\}$

## SOL Warm-Up Graphing Calculator Active

**A.7e (b)** Finding values of a function for elements in the domain

1. Which is the value of  $f(x) = x^2 - x - 1$  when  $x = -1$ ?

- A -3
- B -2
- C -1
- D 1

2. Which table shows the function  $f(x) = -x^2 + x + 1$ ?

**A**

x	-5	-1	0	1	5
y	-29	-1	1	-1	-19

**B**

x	-4	0	2	3	4
y	-19	1	-1	-5	-10

**C**

x	-3	-2	0	3	6
y	-11	-5	1	-5	-29

**D**

x	-2	-1	0	4	5
y	-5	-1	1	-11	-18

3. What are the values of  $f(x) = 1 - 4x - 5x^2$  when  $x$  is  $\{-5, 0, 5\}$ ?

- A  $\{-104, 1, 144\}$
- B  $\{-104, 1, -142\}$
- C  $\{-103, 1, -144\}$
- D  $\{-103, 1, -143\}$

## SOL Warm-Up Graphing Calculator Active

### A.7c (a) Identifying zeros of a function

1. What are the zeros of  $f(x) = 2x^2 + 5x - 3$ ?

A  $\frac{1}{2}$  and 3

B  $-\frac{1}{2}$  and 3

C  $-\frac{1}{2}$  and -3

D  $\frac{1}{2}$  and -3

2. What are the zeros of  $f(x) = -6x^2 + 23x - 7$ ?

A  $\frac{1}{3}$  and -3.5

B  $-\frac{1}{3}$  and -3.5

C  $\frac{1}{3}$  and 3.5

D  $-\frac{1}{3}$  and 3.5

3. Which function has zeros at 3 and -4?

A  $f(x) = x^2 + x - 12$

B  $f(x) = x^2 + x + 12$

C  $f(x) = -x^2 + 7x - 12$

D  $f(x) = -x^2 - 7x + 12$

4. Which function has the zeros at  $-\frac{1}{3}$  and  $-\frac{3}{4}$ ?

A  $f(x) = 8x^2 - 14x - 3$

B  $f(x) = 8x^2 + 10x - 3$

C  $f(x) = 8x^2 - 10x + 3$

D  $f(x) = 8x^2 + 10x + 3$