Common Core Math II Name Date

Square Root Function

**The parent square root function is:**

As with all other functions we have learned, square root functions can be transformed.

**Key Features of Square Root Functions**

Characteristic Points for

Domain:

Range:

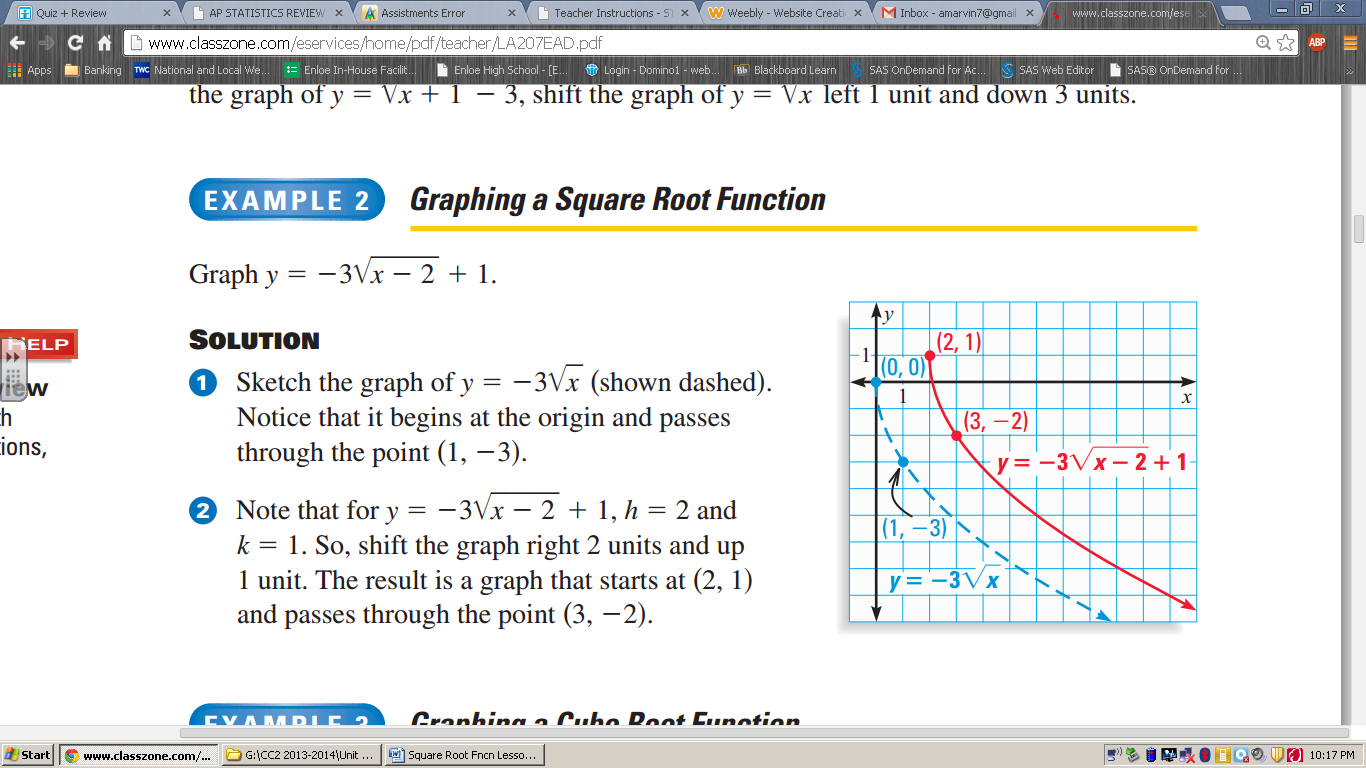
Intercept:

**Fill in the table below with a description of what happens to the parent function when the following transformations are performed.**

|  |  |
| --- | --- |
| **Parent Function** |  |

|  |  |
| --- | --- |
| **Description** | **Transformation** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

**Let’s look at the following example.**

The graph on the right represents a transformation of the graph of

The description is as follows:



Domain:

Range:

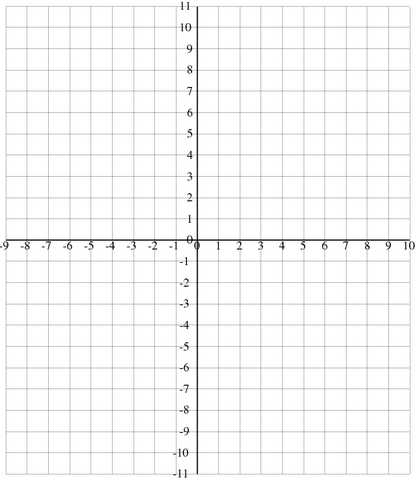
The graph on the right represents a transformation of the graph of

The description is as follows:



Domain:

Range:

**TRY NOW**

Graph the following function on the graph at right. Describe each transformation, give the domain and range, and identify any asymptotes.

Description:

Domain:

Range:

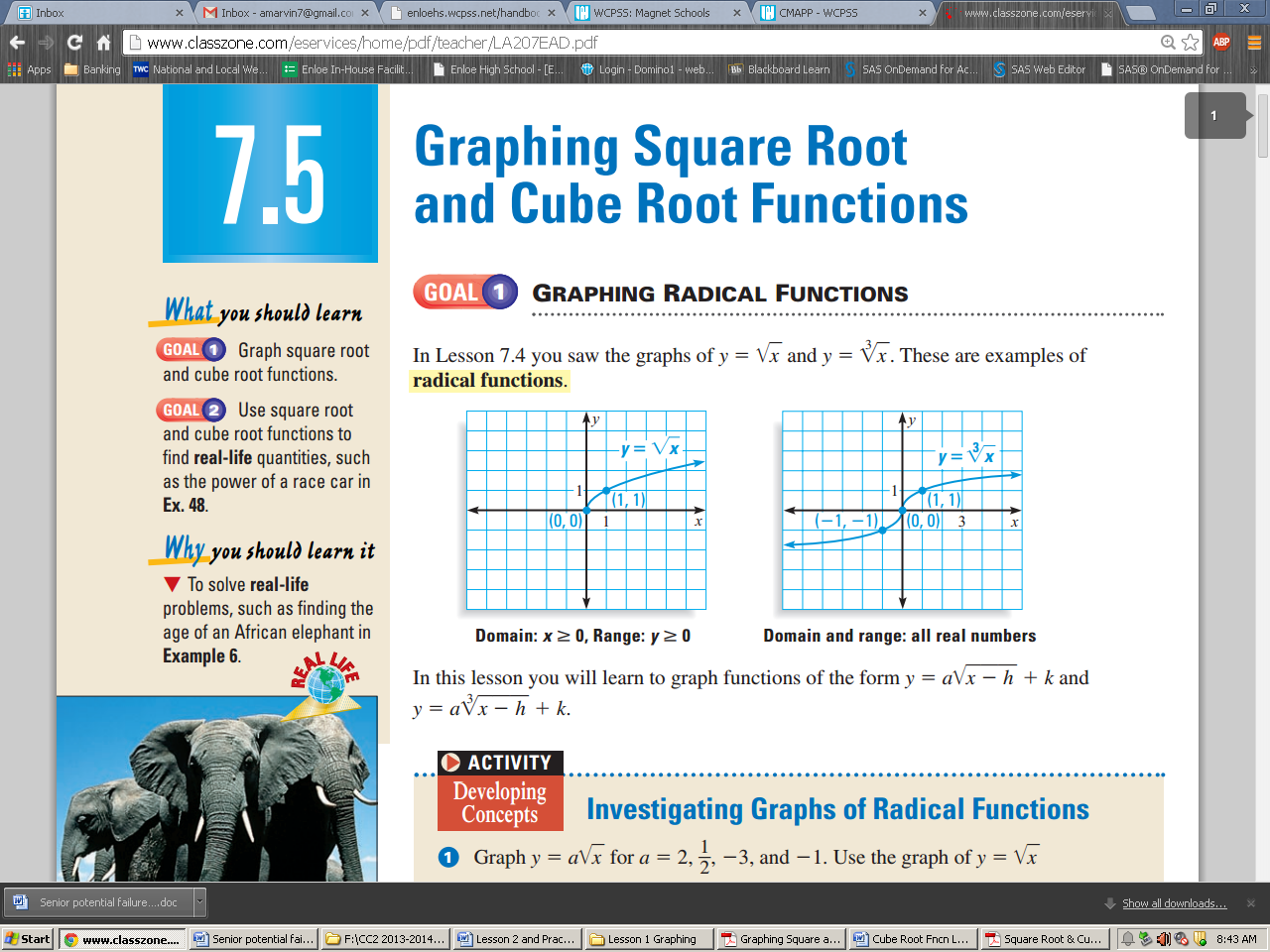
Common Core Math II Name Date

Cube Root Function

**The parent cube root function is:**

As with all other functions we have learned, cube root functions can be transformed.

**Key Features of Cube Root Functions**



Characteristic Points for

Domain:

Range:

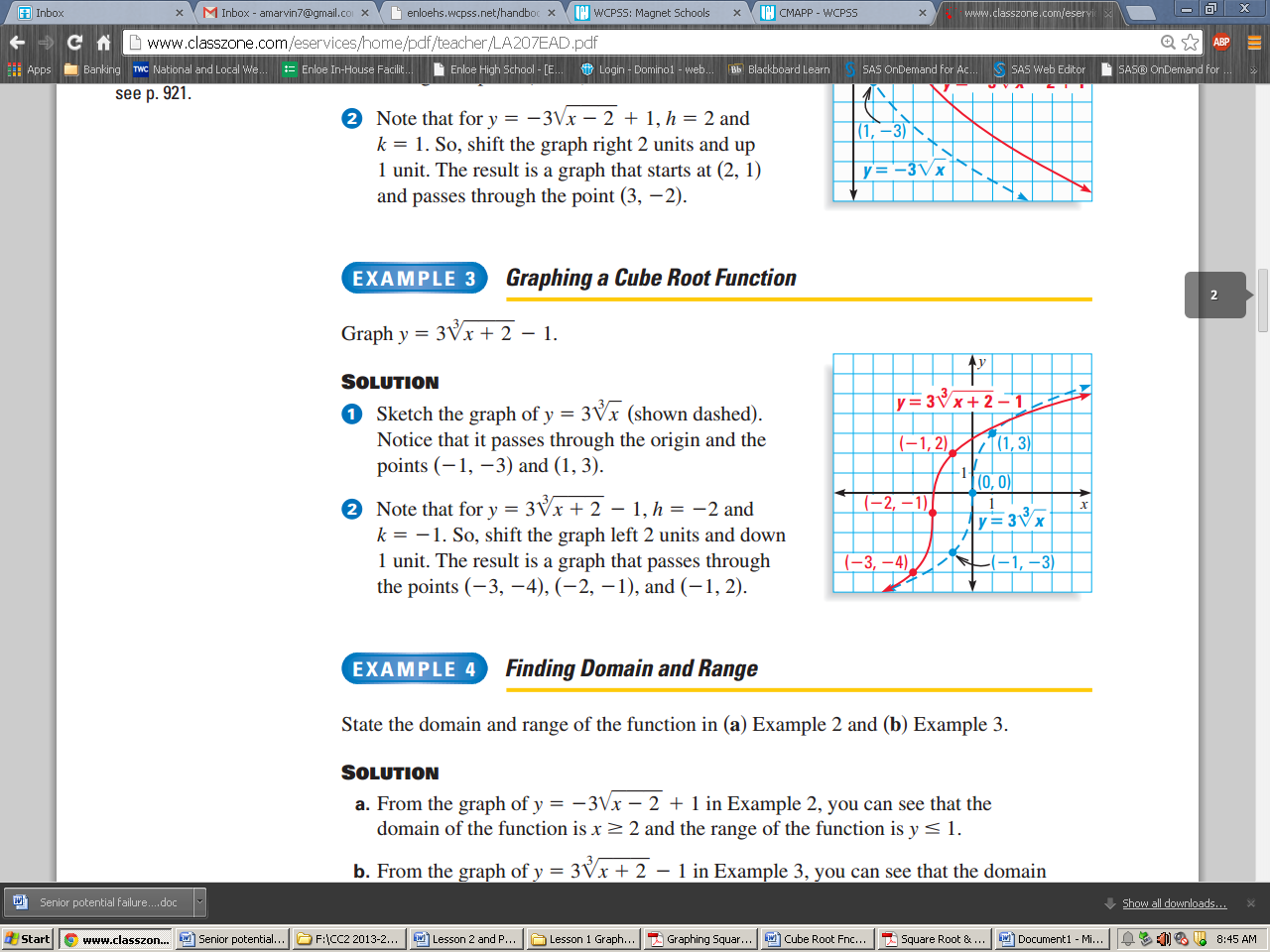
Intercept:

**Fill in the table below with a description of what happens to the parent function when the following transformations are performed.**

|  |  |
| --- | --- |
| **Parent Function** |  |

|  |  |
| --- | --- |
| **Description** | **Transformation** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

**Let’s look at the following example.**

**The graph on the right represents a transformation of the graph of**

The description is as follows:

Domain:

Range:

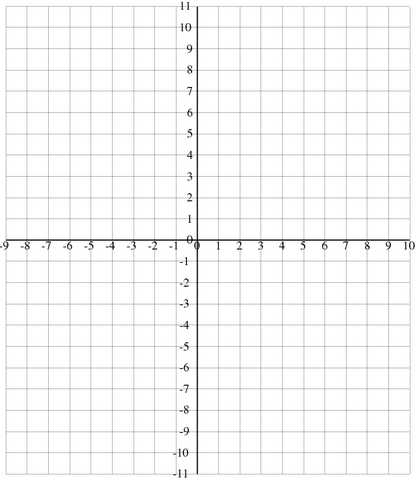
**The graph on the right represents a transformation of the graph of**

The description is as follows:

Domain:

Range:

Now it’s your turn to find key features and translate logarithmic functions.

**TRY NOW**

Graph the following function on the graph at right. Describe each transformation, give the domain and range, and identify any asymptotes.

Description:

Domain:

Range:

# Core 2 Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Graphing Square and Cube Root Functions

**Identify the domain and range of each. Then sketch the graph.**

1) *y* = *x* + 4

3) *y* = 3 + *x* + 3

5) *y* =

*x*

7) *y* = *x* − 1

9) *y* = 3 + *x* − 2

3

11) *y* = −5 + *x*

3

13) *y* = *x*

3

15) *y* = *x* + 3

3

17) *y* = *x* + 3 − 1

3

19) *y* = *x* + 5

2) *y* = − *x* − 3

4) *y* = − *x* − 1 − 3

6) *y* = *x* − 2 + 1

8) *y* = *x* − 2 + 2

10) *y* = *x* + 4

3

12) *y* = *x* − 3

3

14) *y* = *x* + 4

3

16) *y* = *x* − 2 − 3

3

18) *y* = 64*x*

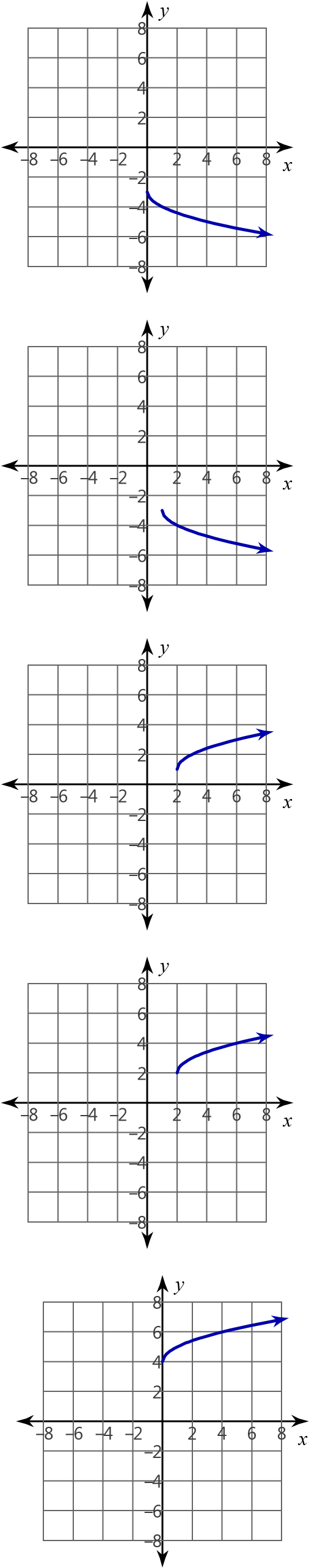
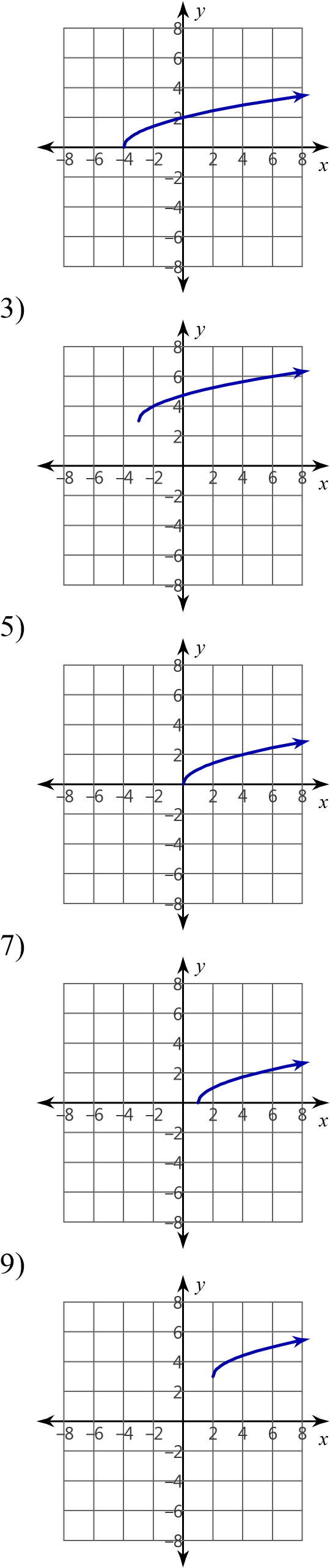
3

20) *y* = 2 *x* − 4

©f G2B0t1T35 aKKuBtFaI uSxoUfGtLwYaOrKeU 9LdL2Cw.g v xAUlzlu 9r7i0gthZt6sY vrDeXsxeTrEvyeidC.l O kMBaadTeY bwUihtthn oIQnNfTijnlintges GAvlkgAeZbZr1a6 K2b.p

Answers to Graphing Square and Cube Root Functions

# 1) 2)

 Domain: *x* ≥ −4 Domain: *x* ≥ 0

Range: *y* ≥ 0 Range: *y* ≤ −3

# 4)

Domain: *x* ≥ −3 Domain: *x* ≥ 1

Range: *y* ≥ 3 Range: *y* ≤ −3

# 6)

Domain: *x* ≥ 0 Domain: *x* ≥ 2

Range: *y* ≥ 0 Range: *y* ≥ 1

# 8)

Domain: *x* ≥ 1 Domain: *x* ≥ 2