

domain and range of graphs

agenda

- Warm-Up
- HW Check
- Notes -
- Foldable p.26
- Assignment: #1-6

reminders

- Test 2 Corrections & Bathroom Passes due Wed 5PM
- Quiz Friday!


essential question

How can I describe graphs using domain and range?


warm-up tuesday

Exit Slip

A Kendra wants to stack her DVD cases on her TV shelf, and wants to know how many cases she can stack on the shelf. Each case is 1.2cm tall. Record your data in the table below.



| # of DVDs | Height of Stack (cm) |
|-----------|----------------------|
| 0 | |
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| n | |

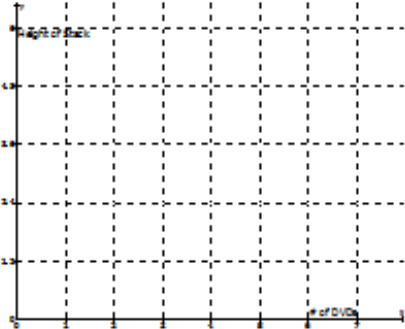


B Write two ordered pairs for data in your table, and explain what each ordered pair means.

Ordered Pair: _____ Means: _____

Ordered Pair: _____ Means: _____

C Create a scatterplot of your data on the grid below.



D Using information contained in either your table or your scatterplot, predict the height of a stack that contains:

6 DVDs _____ 10 DVDs _____ 100 DVDs _____

E What if you are told that a stack of DVDs is 30 cm high? How many DVD cases would you expect to find in the stack? Explain how you got your answer.

Number of DVDs: _____ Explain: _____

Complete the "Exit Slip". Read the questions carefully and answer every question! Have your HW out and ready to check.

Algebra I - Unit 2: Topic 1 – Patterns

Practice - Patterns

No Textbook Correlation

Name _____ Date _____ Per _____

If n represents a number's position in a sequence, write the first 5 terms described by each expression.

- $2n + 7$
- $n(n - 6) + 2$

Find the term number when it takes 103 blocks to build.

Match each sequence with its rule on the right.

- | | |
|----------------------|-------------|
| 3. -4, -3, -2, -1, 0 | A $x + 5$ |
| 4. 6, 9, 14, 21, 30 | B $x - 5$ |
| 5. 6, 7, 8, 9, 10 | C $x^2 + 5$ |

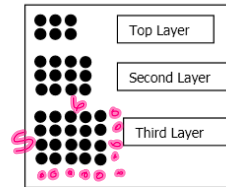
6. Pam needs to make a tower of soup cans as a display in a supermarket. Each layer of the tower will be in the shape of a rectangle as shown. The length and width of each layer will be one less than the layer below it.

A. How many cans will be needed for the fourth layer?

30 cans

B. What is the total number of cans needed for an 8-layer tower?

OMIT



7. Sara planted rows of tulips in her garden, as shown in the table. Which expression best shows the number of tulips per row, r .

| Row Number | Number of Tulips |
|------------|------------------|
| 1 | 3 |
| 2 | 6 |
| 3 | 9 |
| 4 | 12 |

- $3 - r$
- $r + 3$
- 3
- $3r$

8. A geometry class was exploring the sum of the interior angles, S , of polygons as compared to the number of sides, n , that the polygon has. They recorded their data in the table below. Complete the table, and state the function rule.

p.25

| | |
|---|------|
| 4 | 180 |
| 3 | 180 |
| 4 | 360 |
| 5 | 540 |
| 6 | 720 |
| 7 | 900 |
| 8 | 1080 |
| 9 | 1260 |

Function Rule:

$S = 180n - 360$

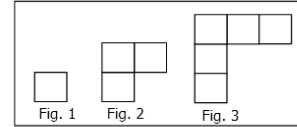
$y = (R \cdot C)X + beg.$

$180 = 180(3) + ?$

Algebra I - Unit 2: Topic 1 – Patterns

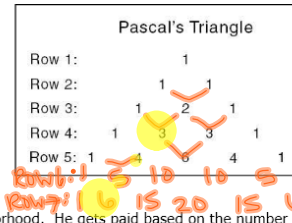
9. The top-count views of a block pattern are shown below. How many blocks does it take to build figure 10?

- A 4
- B 5
- C 19
- D 23



10. The figure below shows a partial view of Pascal's triangle. Which row of numbers best represents the seventh row in Pascal's triangle?

- A 1 5 10 10 5 1
- B 1 6 15 20 15 6 1**
- C 1 7 21 35 35 21 7 1
- D 1 8 28 56 70 56 28 9 1



11. John delivers newspapers every morning in his neighborhood. He gets paid based on the number of hours, x , that he works. This table reflects John's pay scale.

| Number of Hours Worked | Wages |
|------------------------|-------|
| 1 | \$10 |
| 2 | \$18 |
| 3 | \$26 |
| 4 | \$34 |

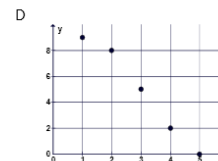
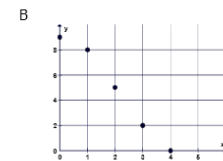
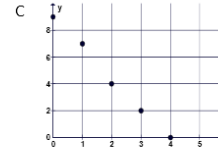
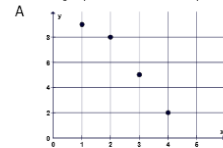
Which equation represents the number of dollars, w , he will be paid for doing x hours of work?

- A $w = 2x + 8$
- B $w = 10 + 8x$
- C $w = 34 - 8x$
- D $w = 2 + 8x$

12. The table below shows how the weight of an ice cube changes as it melts in the sun.

| | | | | | |
|------------|---|---|---|---|---|
| Time (min) | 0 | 1 | 2 | 3 | 4 |
| Weight (g) | 9 | 8 | 5 | 2 | 0 |

Which graph below best represents the data in the table?











domain and range p.26

essential question

How can I describe graphs using domain and range?

Fold each side in
so it looks like the
picture to the right.
Then cut each flap.

| continuous | discrete |
|---|---|
| D O M A I N | R A N G E |
|  open circle |  closed circle |
|  |  |

| | |
|---|---|
| continuous | discrete |
| D O M A I N | R A N G E |
|  open circle |  closed circle |
|  |  |

| | | | |
|-----------|---|---|-----------|
| <p>ex</p> | <p>connected (can draw without picking up pencil)</p> | <p>disconnected (dots) scatter plot</p> | <p>ex</p> |
|-----------|---|---|-----------|

| | | | |
|---|---|---|---|
| <p>The domain of a relation is the set of all inputs or x-coordinates</p> <p>DR X Y</p> <p>D, L, R "Domain goes from Left to Right"</p> | <p>continuous → draw a box around function</p> <p>domain: $\{x -4 \leq x < 8\}$</p> <p>Range: $\{y -2 < y \leq 2\}$</p> | <p>(x, y)</p> <p>discrete → list ordered pairs</p> <p>$(-4, 2)$ $(-2, 1)$ $(0, 2)$ $(2, -1)$ $(4, 2)$</p> <p>Domain: $\{x x = -4, -2, 0, 2, 4\}$</p> <p>Range: $\{y y = 2, -1, -2\}$</p> | <p>The range of a relation is the set of all outputs or y-coordinates.</p> <p>DR X Y</p> <p>RoBoT "Range goes from Bottom to Top"</p> |
|---|---|---|---|

| | | | |
|---------------------------------|-----------------------------|----------------------------|--------------------------------------|
| <p>NO LINE</p> <p>left/down</p> | <p>$<$</p> | <p>\leq</p> | <p>equal to</p> |
| <p>Arrow → infinity</p> | <p>$-\infty$</p> | <p>∞</p> | <p>Right/up Arrow → infinity</p> |

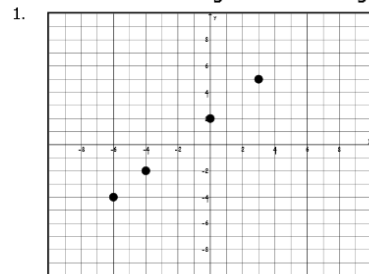
#1-6

Algebra I - Unit 2: Topic 2 – Domain & Range of Graphs

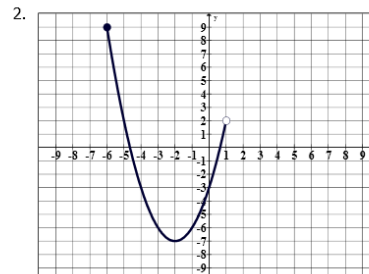
Practice - Domain & Range of Graphs

pp 236-242

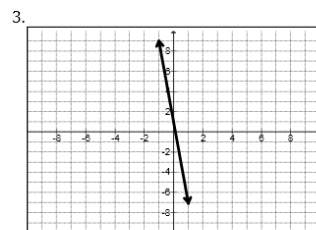
Find the domain and range of the following graphs.



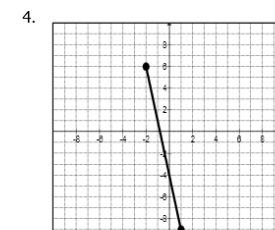
| | |
|------------------------|--|
| Domain | |
| Range | |
| Continuous or Discrete | |



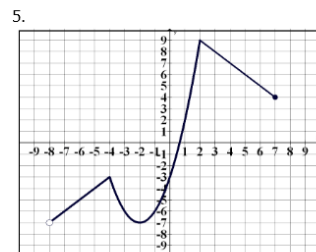
| | |
|------------------------|--|
| Domain | |
| Range | |
| Continuous or Discrete | |



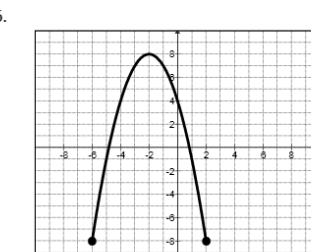
| | |
|------------------------|--|
| Domain | |
| Range | |
| Continuous or Discrete | |



| | |
|------------------------|--|
| Domain | |
| Range | |
| Continuous or Discrete | |



| | |
|------------------------|--|
| Domain | |
| Range | |
| Continuous or Discrete | |



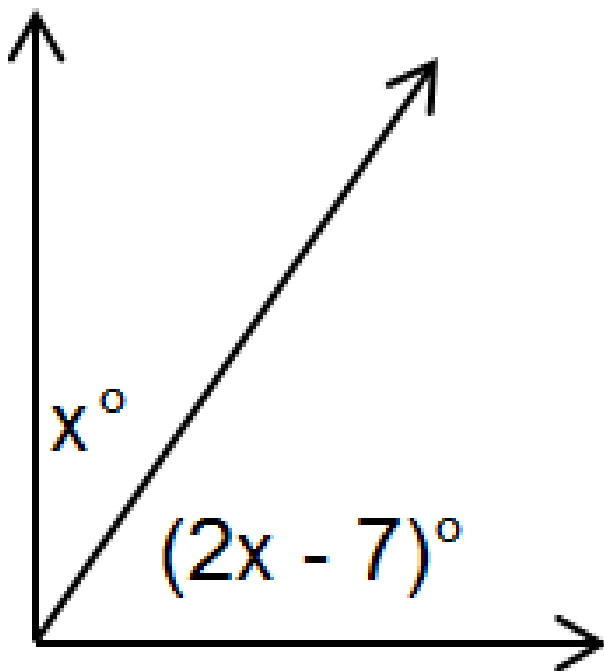
| | |
|------------------------|--|
| Domain | |
| Range | |
| Continuous or Discrete | |

exit ticket

on a sticky note, solve
the following problem

BE SURE TO WRITE
YOUR NAME

1. Using the diagram, find the measure of both angles



hw check:

domain and range of graphs

1. Domain: $\{x \mid x = -6, -4, 0, 3\}$

Range: $\{y \mid y = -4, -2, 2, 5\}$

Discrete

2. Domain: $\{x \mid -6 \leq x < 1\}$

Range: $\{y \mid -7 \leq y \leq 9\}$

Continuous

3. Domain $\{x \mid x \in \mathbb{R}\}$

Range: $\{y \mid y \in \mathbb{R}\}$

Continuous

4. Domain: $\{x \mid -2 \leq x \leq 1\}$

Range: $\{y \mid -9 \leq y \leq 6\}$

Continuous

5. Domain: $\{x \mid -8 < x \leq 7\}$

Range: $\{y \mid -7 \leq y \leq 9\}$

Continuous

6. Domain: $\{x \mid -6 \leq x \leq 2\}$

Range: $\{y \mid -8 \leq y \leq 8\}$

Continuous

Note: $\{x \mid -\infty < x < \infty\}$ is equivalent to $\{x \mid x \in \mathbb{R}\}$

