

# Enrichment Packet #27

Due: Monday

NAME: \_\_\_\_\_

# Connection Detection

In an **analogy**, two groups are related in some way. To solve an analogy, find a relationship between the items in the first group. Use the same relationship to find missing items in the second group.

## Reasoning

**Example** 2 is to 8 as 3 is to \_\_\_\_\_

**Answer** You know that  $2 \times 4 = 8$ . So multiplying 3 by 4 to get 12 is one way to complete the analogy.

Circle the number that completes each analogy. Explain the relationship between the numbers. (**Hint:** Use multiplication or division.)

- |                                 |    |
|---------------------------------|----|
| 1. 3 is to 6 as 6 is to _____   | 9  |
| _____                           | 12 |
|                                 | 24 |
| 2. 20 is to 40 as 5 is to _____ | 10 |
| _____                           | 15 |
|                                 | 20 |
| 3. 7 is to 42 as 9 is to _____  | 36 |
| _____                           | 45 |
|                                 | 54 |
| 4. 3 is to 12 as 5 is to _____  | 15 |
| _____                           | 20 |
|                                 | 25 |
| 5. 32 is to 8 as 20 is to _____ | 1  |
| _____                           | 4  |
|                                 | 5  |

Write your own number analogy. Start with one fact. Find a second related fact. Then write your analogy.

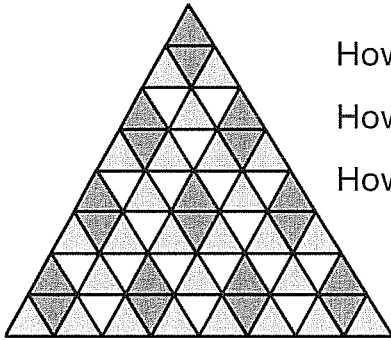
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# How Many Are There?


Use addition, subtraction, or multiplication to find the number of each shape in the patterns shown below. Then explain how you found your answers.


**Patterns**

1.



How many  are in the pattern? \_\_\_\_\_

How many  are in the pattern? \_\_\_\_\_

How many  are in the pattern? \_\_\_\_\_

How did you find the number of each shape in the pattern?

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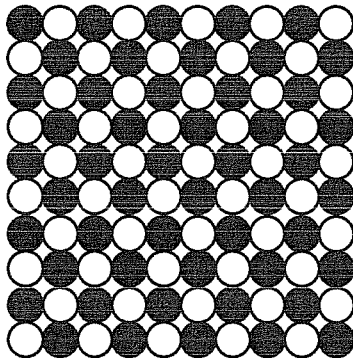



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2.



How many  are in the pattern? \_\_\_\_\_

How many  are in the pattern? \_\_\_\_\_

How many  are in the pattern? \_\_\_\_\_

How did you find the number of each shape in the pattern?

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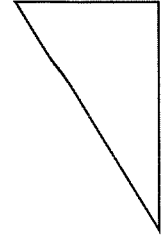
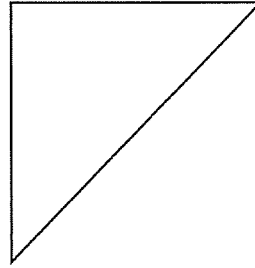
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# Halfway There

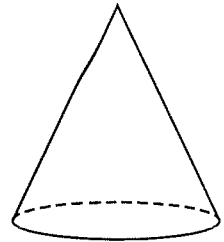
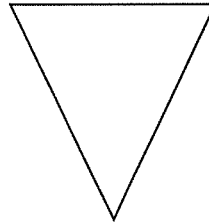
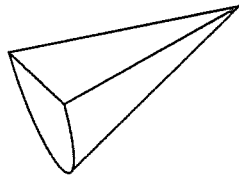
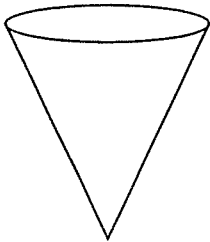
Circle the figure on the right that shows half of the figure on the left.

## Visual Thinking

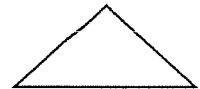
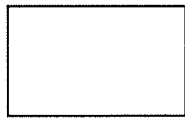
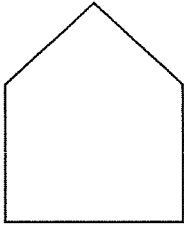
1.



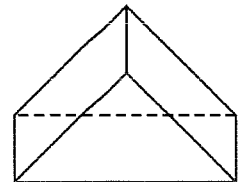
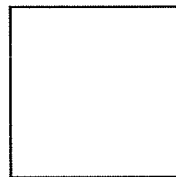
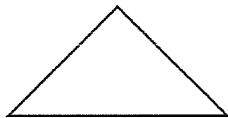
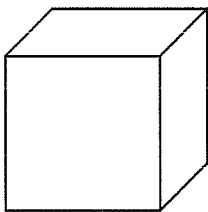
2.



3.



4.



5.



# Common Inequalities

**Visual Thinking**

Every inequality can be graphed on the number line. So what happens if there are two or more inequalities? Graph the following inequalities on a number line. Find what solutions they have in common. (*Hint*: use the numbers that both inequalities include when graphing.)

1. Suppose you have inequalities  $x > 5$  and  $x > 7$ . What is the graph of the solutions common to both inequalities?
  
  
  
  
  
  
  
  
  
  
2. Suppose instead the inequalities were  $x > 5$  and  $x < 7$ . What then is the graph of the solutions common to both inequalities?
  
  
  
  
  
  
  
  
  
  
3. Suppose the inequalities were  $x < 5$  and  $x > 7$ . What is the graph of the solutions common to both inequalities?

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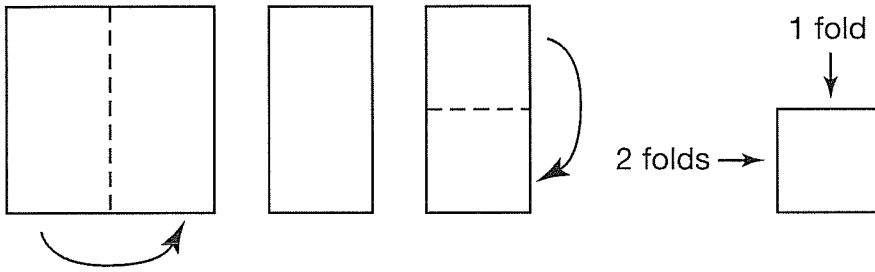
For 4 and 5, graph the solutions that are common to both inequalities.

4.  $2 < x$  and  $x < 10$
  
  
  
  
  
  
  
  
  
  
5.  $5 > x$  and  $x > 3$

# To Fold or Not to Fold

Imagine a square piece of paper, folded twice, as shown here.

## Visual Thinking



In each row, the picture on the left shows a folded square with one or more cuts in it. Circle the picture on the right that shows the unfolded square. Unfold each square up first, then unfold it to the left.

1.				
2.				
3.				
4.				
5.				