

WARM-UP

**1.**

In the mazes below, begin at the shaded number. Follow skip-counting pattern to escape. You can only move up, down, left or right to the next number.

20	30	21	3	18
16	23	28	33	38
13	18	11	15	17
8	3	6	14	16
7	4	9	12	14

35	37	45	53	61
21	13	24	35	69
5	16	56	46	77
21	79	68	57	85
101	90	43	62	90

52	91	13	22	31
52	15	4	28	36
63	26	12	20	44
84	76	68	60	52
25	17	82	25	16

90	5	86	50	31
104	95	42	73	27
92	86	13	17	21
68	77	9	5	14
59	50	41	32	23

15	90	15	27	34	41
70	80	30	20	24	48
60	50	40	22	28	32
65	60	56	52	39	36
31	64	68	48	44	40
51	76	72	85	56	42

2.

a) Ms. V. Skip counts by a 100. The first number she says is a 100. What is the 17<sup>th</sup> number?

b) Ms. Tatiana skip counts by 6. The first number she says is 6. What is the 20<sup>th</sup> number?

c) Liana begins counting at 54 and counts higher than 70, but never says number 70. Which of the numbers below she could be skip counting by?

2            4            6            8            16

d) Ms. V. begins counting at 23. While she is skip counting she says the number 68. Which of the numbers below she is definitely **NOT** skip counting by?

2            3            5            9            1

c) Alex begins at 9 skip counts by 9. Norman begins at 4 and skip counts by 5. What is the smallest number Alex and Norman will both say?

9, \_\_\_\_\_, \_\_\_\_\_,

4, \_\_\_\_\_, \_\_\_\_\_,

d) Tatiana begins at 2 skip counts by 8. Olga begins at 2 and skip counts by 3. What is the smallest number after 2 they will both say?

2, \_\_\_\_\_, \_\_\_\_\_,

2, \_\_\_\_\_, \_\_\_\_\_,

c) Liana begins at 6 and skip counts by 3. Sean begins at 6 and skip counts by 3. What is the smallest number they will both say?

6, \_\_\_\_\_, \_\_\_\_\_,

3, \_\_\_\_\_, \_\_\_\_\_,

**3.**

a) Between 70 and 100 students will attend the Talent show. Show. If seated in rows of 7, there will be 1 extra student. If seated in rows of 11, there will be no extra students. How many students will attend the talent show?

b) What is the 11<sup>th</sup> number in the pattern below?

8, 14, 20,

c) Between 70 and 100 students will attend the Talent show. Show. If seated in rows of 7, there will be 1 extra student. If seated in rows of 11, there will be no extra students. How many students will attend the talent show?

d) What is the 11<sup>th</sup> number in the pattern below?

e) 8, 14, 20,

## REVIEW

**4.**

a) What is the smallest number of weights you could use to balance 40g using only 4g and 9g weights?

b) How many different weight cannot be balanced with only 2g and 13g weights?

1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	26
27	28	29	30	31	32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47	48	49	50	51	52

*In the problems below It may help to draw a chart like those above.*

c) What is the largest number of grams that cannot be balanced with only 5-gram and 7-gram weights?

d) What is the largest number of grams that cannot be balanced with only 3-gram and 8-gram weights?

## NEW MATERIAL

### SETS (CONTINUED)

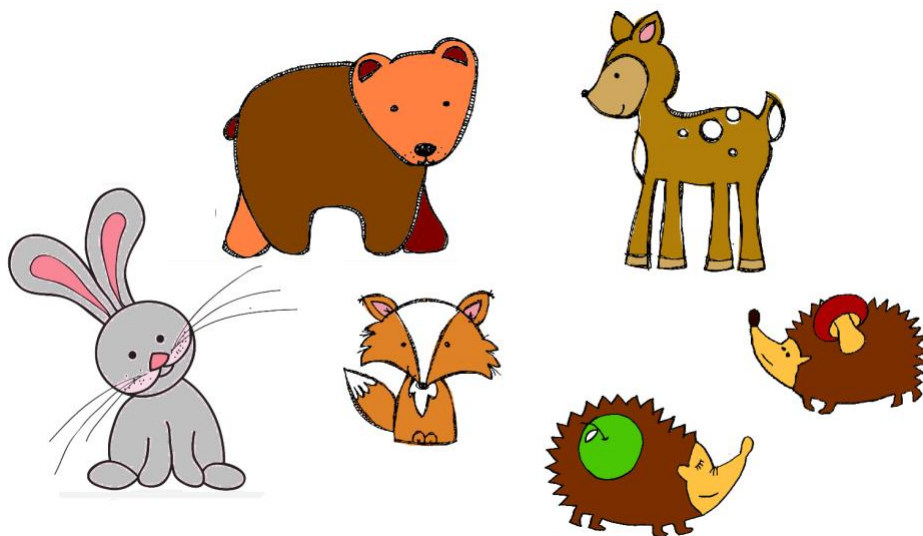
5.

What is a common property for the set:

- a)  $A = \{\text{march, april, may}\};$
- b)  $C = \{\text{addition, subtraction, multiplication, division}\};$
- c)  $M = \{\text{noun, verb, pronoun, adverb, preposition}\};$
- d)  $K = \{\text{New York}\}.$

6.

Define a set below by a property:



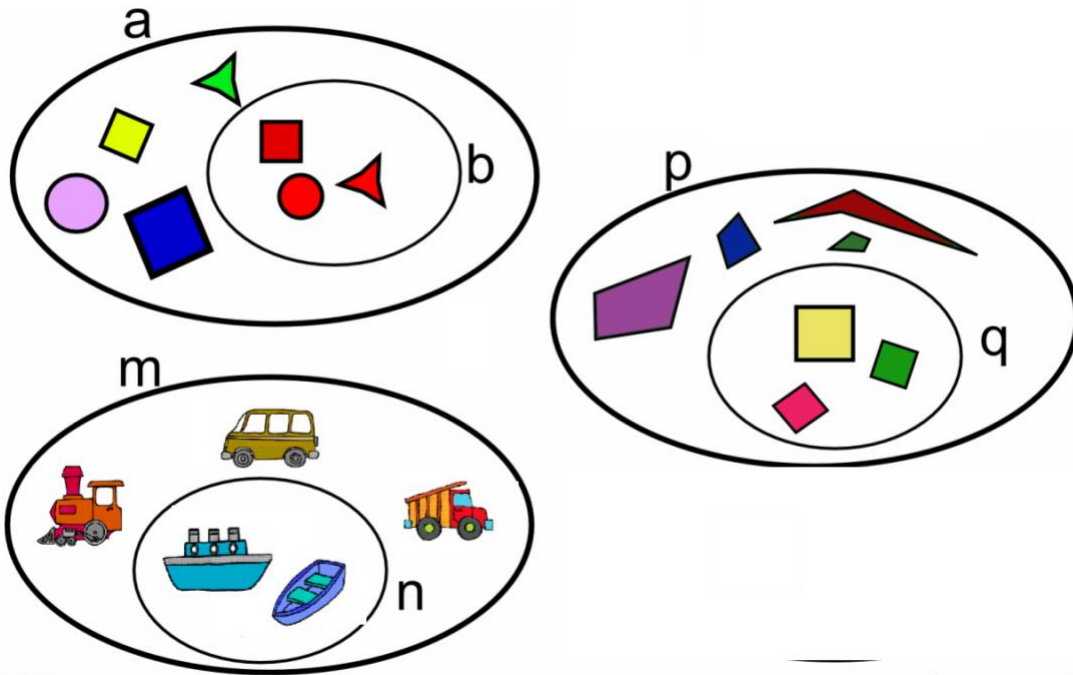
Is every *hedgehog* an animal? Is every animal a *hedgehog*? Which set is a part of another set?

Set B is a subset of set A, if every element of B is also an element of set A, or in other words, each element of the set B also belongs to the set A.

*Example: all squares (set B) are rectangles (set A), but not all rectangles are squares. All blond girls (set B) are girls (set A), but not all girls are blond.*

**8.**

Define a set by stating its property. Which set is a subset of another set? Write down your answer:



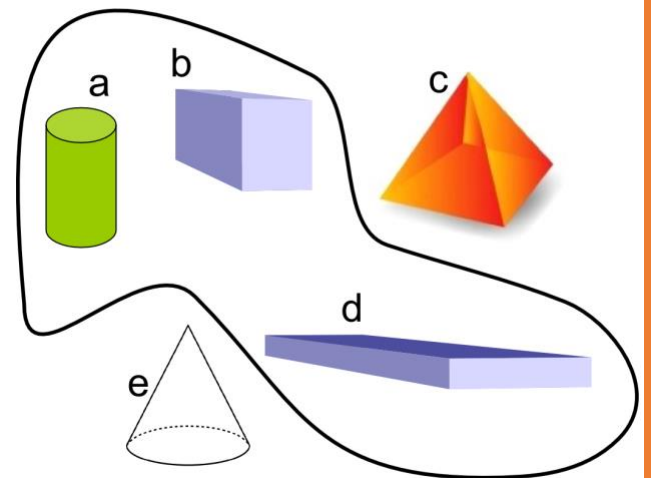
Using { } write down:

a) a set A of shapes which are inside the closed line;

A = \_\_\_\_\_

b) a set B of shapes which are outside of the closed line;

B = \_\_\_\_\_



How do we call these shapes?

10.

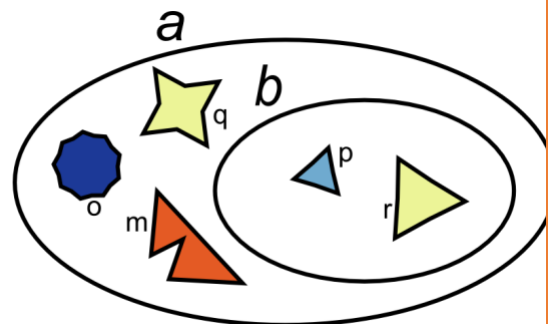
Using curly brackets,  $\{ \}$ , write down the elements of the sets  $a$  and  $b$ . Define each set by stating a property of the elements:

$a =$

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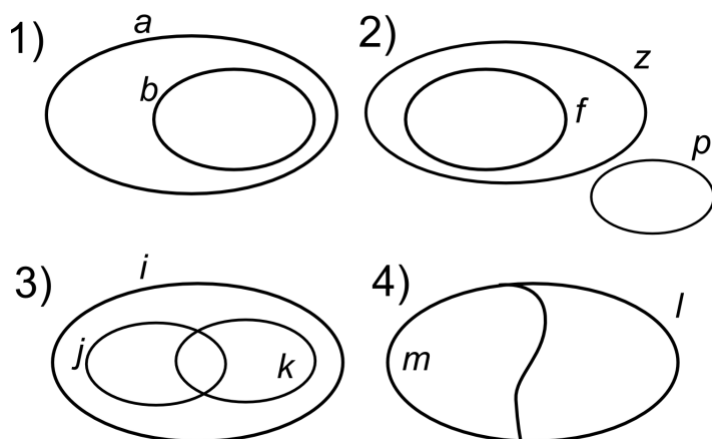
$b =$

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11.

Using the picture below, decide which set is a subset of another set.

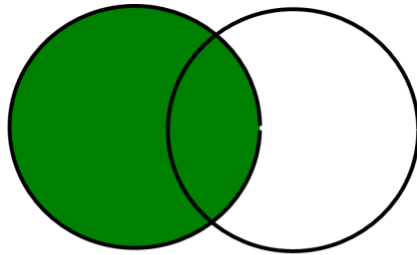


Can you think of any examples of sets and subsets suitable for each picture on the right?

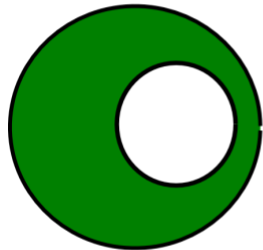


12.

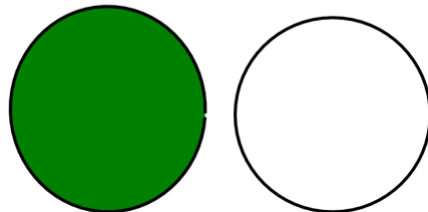
Draw an arrow from each diagram to the right description.



Set of birds  
Set of chickens



Set of mammals  
Set of insects



Set of sea inhabitants  
Set of mammals

We write *belong* (can use symbol  $\in$ ) between an element and a set. We write *subset of* (the symbol  $\subset$ ) between two sets. For example,

*M belongs to the set D, M is a subset of D*

13.

Let  $A = \{H, o, a, b\}$ ,  $B = \{a, b\}$ . Cross out the incorrect statements below:

**A is a subset of B**

**B is a subset of A**

**H belong to A**

**A is not a subset of B**

**B is not a subset of A**

**H does not belong to A**

**A does not belong to B**

**B belong to A**

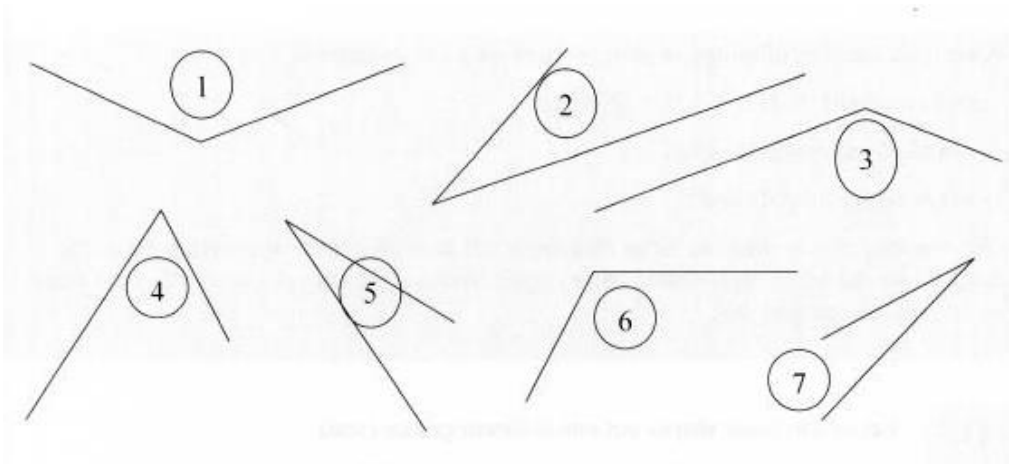
**H is a subset of A**

An **acute angle** is an angle that is smaller than a right angle.

An **obtuse angle** is an angle that is larger than a right angle.

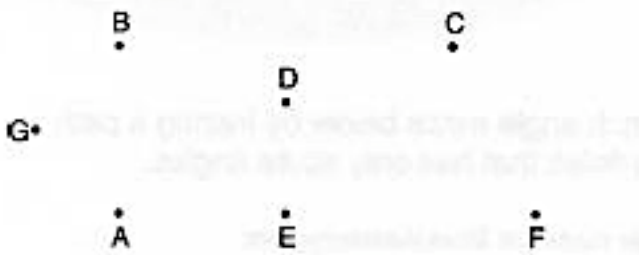
14. List

- All obtuse angles on the picture below:
- All acute angles on the picture below:



15.

Use the diagram below to answer the questions.



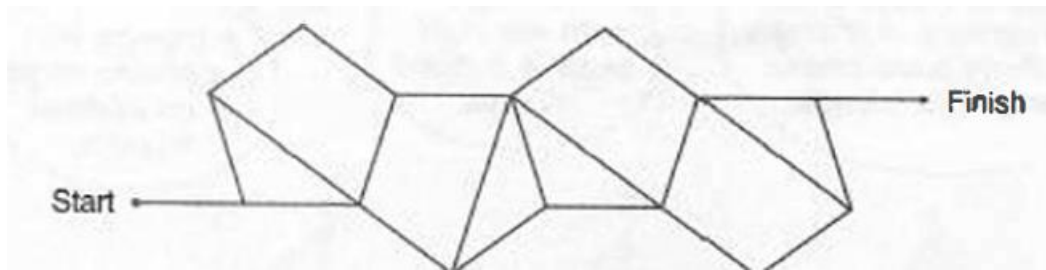
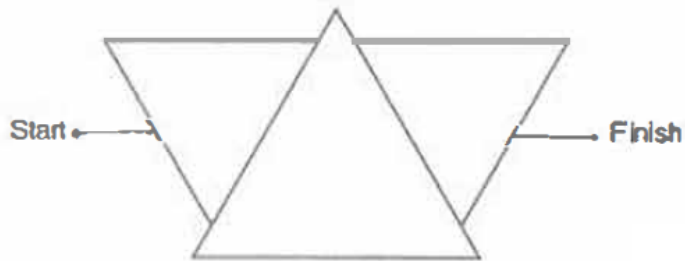
- What kind of angle is formed by connecting A to B to C?
- What kind of angle is formed by connecting D to E to B?
- What kind of angle is formed by connecting A to E to C?
- What kind of angle is formed by connecting B to D to C?

e) What type of angle is formed by connecting C to F to E?

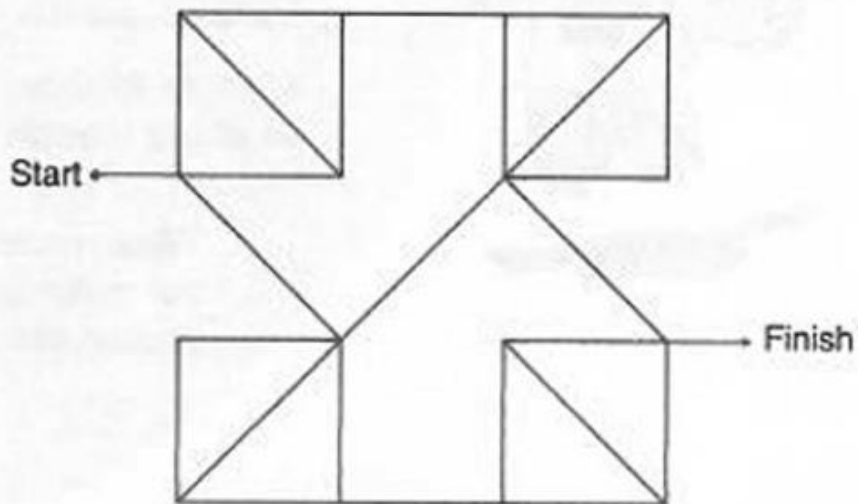
f) What type of angle is formed by connecting B to G to A?

16

Complete each angle maze below by tracing a path from start to finish that has only acute angles.



17. Be careful to avoid right angles in the next maze



**18.** Use only obtuse angles now

