Find a value for the variable that makes the statement true. Then tell the property the equation represents.

1. 0+5m=5(11)   <u>M = 11</u>   <u>Additive Identity</u>

2. -(-(-(7)))=n   <u>n = -7</u>   <u>Op - op</u>

Always, Sometimes, or Never

3. Supplementary angles are <u>Sometimes</u> adjacent.

4. A rhombus is <u>Sometimes</u> a rectangle.

5. Two angles whose measures have the sum of 180° are <u>always</u> supplementary.

6. A parallelogram is <u>always</u> trapezoid.

7. Let M= the set of all tigers and N= the set of all animals.

a. Find $M \cap N$.   <u>Set of all tigers</u>

b. Find $M \cup N$.   <u>Set of all animals</u>

True or False

8. $6.7 \cdot 10^{-4}$ is a negative number.   <u>F</u>

9. The ratio of the circumference of a circle to its radius is a rational number.   <u>F</u>

10. Write the converse of the following statement.

a. *If there is a tornado, then the town will be ruined.*   <u>If the town is ruined there was a tornado.</u>

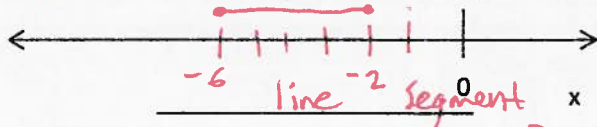**b.** Is the converse always true.   <u>No</u>

11. Use the following information to write a definition for a square.

a. *If a figure is a square, then it has equal sides and equal angles.* <u>All Squares have equal sides and equal angles.</u>
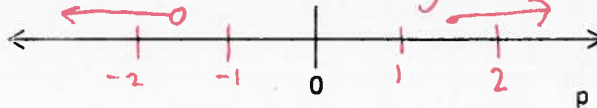
b. Is this a good definition? Explain   <u>No, doesn't say how many sides.</u>

12. a. Graph the set of all numbers x such that $-6 \leq x \leq -2$.

b. Describe the graph geometrically (what is it?).   <u>line segment</u>

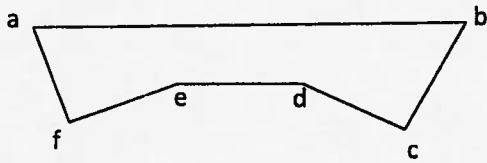**13.** Graph the set of all numbers p such that $p \geq 1.5$ or p<-1.5.

14. Write an inequality based on the number line below.

3.2 3.21 3.22·

$X \leq 3.26$

15. a. Classify the figure below according to the number of sides it has.

a ————————— b

e   d

f   c

Hexagon

b. Name its sides.

$\overline{AB}, \overline{BC}, \overline{CD}, \overline{DE}, \overline{EF}, \overline{FA}$
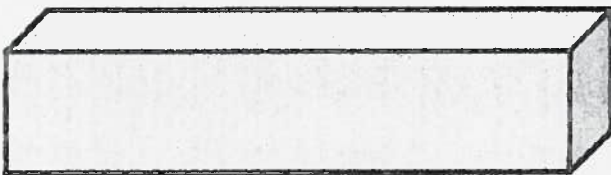
c. Give two names for the figure.

ABCDEF   BCDEFA

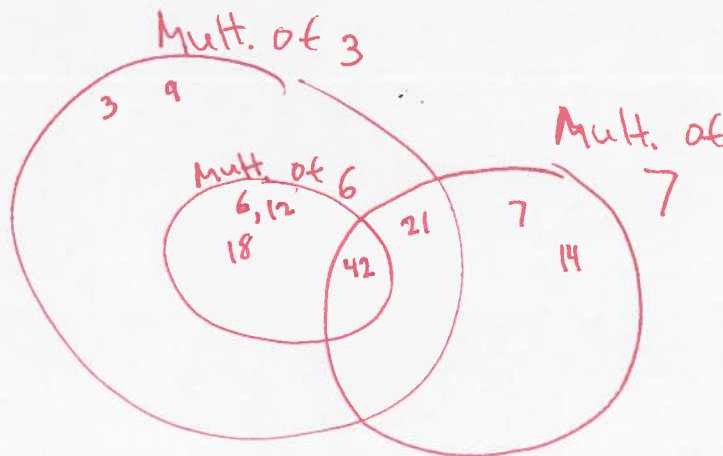**16.** Give an example of a number that is an integer but not a whole number.

-5

17. Explain why the figure below is not a polygon.

It is 3D

18. Create a Venn diagram showing the relationship among these sets: multiples of 3, multiples of 6, multiples of 7.

Mult. of 3
3   9

Mult. of 6
6, 12
18   42   21

Mult. of 7
7
14

19. Identify the hypothesis and conclusion of the following statement.

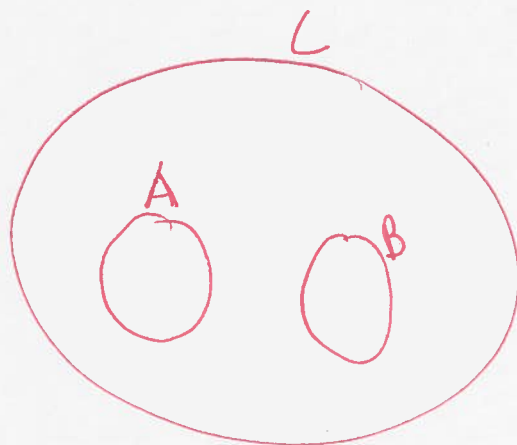_If a polygon has exactly 10 sides, it is a decagon._

Hyp: a polygon has 10 sides

Conclusion: it is a decagon

20. Sets A, B, and C are described below. Create a Venn diagram showing the relationship among these sets.
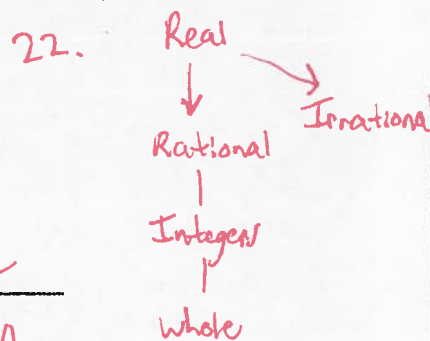
A=movies that are 90 minutes long

B=movies that are 120 minutes long

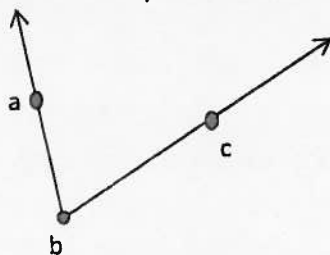C=movies that are 60 minutes, 90 minutes, 120 minutes, and 180 minutes long

21. Refer to Question 20. Suppose D is the set of movies that are 60 minutes long. Represent set D in the Venn diagram for Question 20.

22. Make a hierarchy of the following sets of numbers: rational numbers, real numbers, whole numbers, irrational numbers, and integers.

22.
Real
↓ → Irrational
Rational
|
Integers
|
Whole

_____

23. Give three ways to name the angle below.

∠ ABC
∠ CBA
∠ B

24. Consider the following statement.

All four-legged animals are lions.

a. Write the statement in if-then form.

If it's a four legged animal, then it is a lion.

b. Give a counterexample that proves the statement is false.

Dog