**MIDTERM TEST Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hour:\_\_\_\_\_**

UNIT 8

Factor and solve the following:

1. $5x-15=0$ 2. $x^{2}+5x+6=0$

3. $x^{2}-7x+10=0$ 4. $2x^{2}+7x-15=0$

Solve the following systems of equations for both x and y.

5. $y=x^{2}+4x-3$ 6. $y=x^{2}+10x+4$

 $y=2x$ $y=3x-6$

7. Write the following phrase as an expression: “Sum of three times a number n and six”.

8. Write the following expression as a phrase: $3-\frac{76}{x}$

UNIT 9

Sample Space: {1, 2, 3, 4, 5, 6, 7, 8, 9, 10} Set A: {1,2,3,4,5} Set B: {1,3,5,7,9} Set C: {1,2,3}

Using the above information answer the following questions.

9. What is $A∪B?$ 10. What is $A∩B? $\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11. a) Is A ⊂C? Circle one. YES NO 12. What is $B^{c}?$\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) Is C ⊂A? Circle one. YES NO

Find the following probabilities using the given chart.



13. $P(French)$ 14. $P(German ∩Girl$) 15. $P(Girl ∪French)$

16. $P\left(Boy\right)$ 17. $P\left(Spanish\right)$

UNIT 10

Identify whether each of the following dilations is an enlargement or reduction. If not given, find the scale factor.

18. k=.89 19. ABC 🡪 A’B’C’

20. K=6/5

21. A(0,3)🡪A’(0,1.5)

Identify if the following pairs of triangles are similar. If yes, state which theorem was used and complete the similarity statement.

22.

Similar? YES NO

Similarity Theorem/Test:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

$∆EBN\~\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$

Graph the following translations:

23. Dilation of 2 24. Rotate 180 degrees

UNIT 11

25. Find the measures of the seven missing angles.

26. State a pair of angles for each of the following. (Note that angle 8 is the one that is labeled 135 degrees)

Alternate Interior:

Alternate Exterior:

Corresponding:

Consecutive Interor:

Vertical:

27. Write the following for given conditional statement “If it is a frog, then it is an amphibian”

Converse:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Inverse:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Contrapositve:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

28. Given: $r || t$ and $∠8=135°$

Prove: $∠4=45°$