Name: _____ **Date:** _____

ALG II - Ch. 1 Test Review

☑ *Use when you get it right all by yourself*

S *Use when you did it all by yourself, but made a silly mistake*

H *Use when you could do it alone with a little help from teacher or peer*

G *Use when you completed the problem in a group*

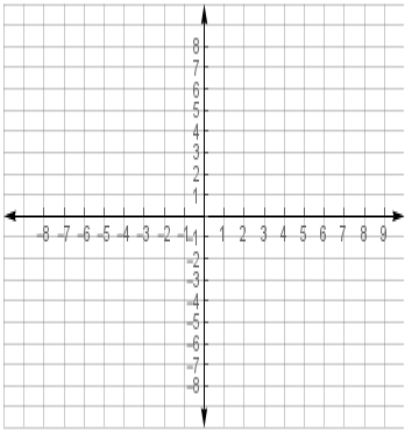
X *Use when a question was attempted but wrong (get help)*

N *Use when a question was not even attempted*

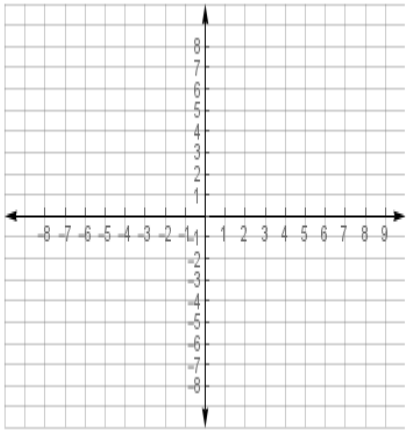
CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Graphing lines, absolute values, quadratics, & constants, scatterplots	4	1,2, 15, 16	3
Identifying transformations from the parent function	2, 5 - 9	1, 10	3, 4, 11, 12
Domain & Range in Interval Notation	4	1, 2	3
Solving Three Variable Systems	13	14	
Creating a Line of Best Fit by hand & on the calculator		15, 16	
Predicting with the line of best fit	15, 16		

1 – 4: Graph the function given <u>and</u> its parent function. Then describe the transformation <u>from</u> the parent function and the domain and range, in interval notation, of the new function.

1. $f(x) = |x - 3|$



2. $f(x) = x^2 - 4$

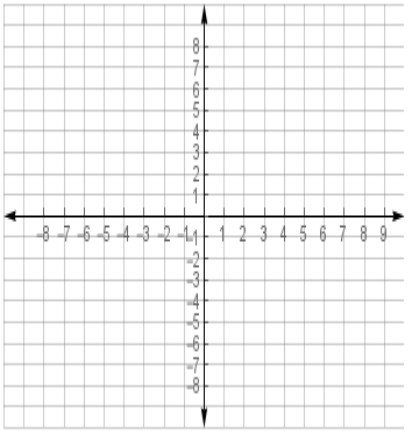


Transformations:

Domain:

Range:

3. $g(x) = |2x| - 3$

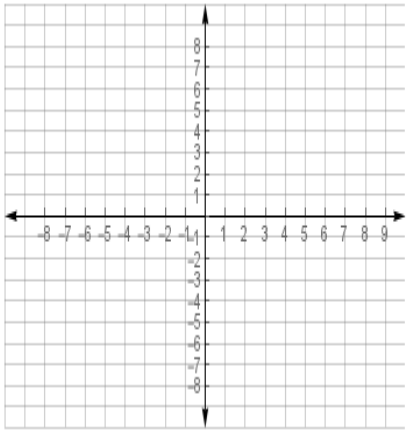


Transformations:

Domain:

Range:

4. $g(x) = -\frac{1}{2}x + 1$



Transformations:

Domain:

Range:

5 – 12: Write a function *g(x)* whose graph represents the indicated transformation of the graph of *f(x)*.

5. $f(x) = 3x$; translation 4 units up

6. $f(x) = |2x| + 3$, translation down 2 units

7. $f(x) = x + 3$, reflection over the y-axis

8. $f(x) = \frac{2}{3}x - 4$, reflection over the x-axis

9. $f(x) = -2|x - 2| + 4$, vertical stretch by a factor of 2

10. $f(x) = |3x| + 2$, horizontal compression by a factor of $\frac{1}{3}$

11. f(x) = x, translation 5 units up followed by a vertical compression by a factor of $\frac{1}{4}$

12. $f(x) = |x|$, reflection over the x-axis followed by a translation 2 units left

13 – 14: Solve the system of equations and write your final answer in appropriate notation.

13.

$$x - 6y + 2z = 5$$
$$2x - 3y + z = 4$$
$$3x + 4y - z = -2$$

14.

$$x + 4y - 3z = 1$$
$$3x + 12y - 9z = 8$$
$$2x + 4y - 4z = -12$$

15 – 16: Write the equation of the line of best fit, state the correlation (r), and then use your equation to predict for the future.

15. Farmers will sometimes hold their crops from market until the price goes up to a level they think is satisfactory. The table below records the price per bushel and how many thousand bushels of wheat were sold at the price during a 10-day selling period in Iowa.

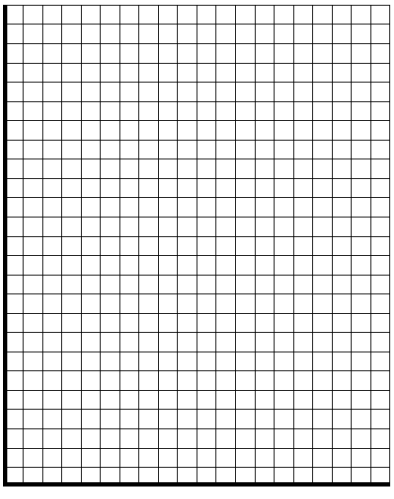
Price ($ per bushel)	3.84	3.66	3.87	3.96	3.6	4.05	3.63	3.6	3.72	3.87
Bushels Sold (1000s)	50	47	38	28	49	23	47	46	39	42

A. Draw a scatterplot and create a prediction equation (line of best fit) for the data.

m = _____ b = _____ r = _____

y = _____

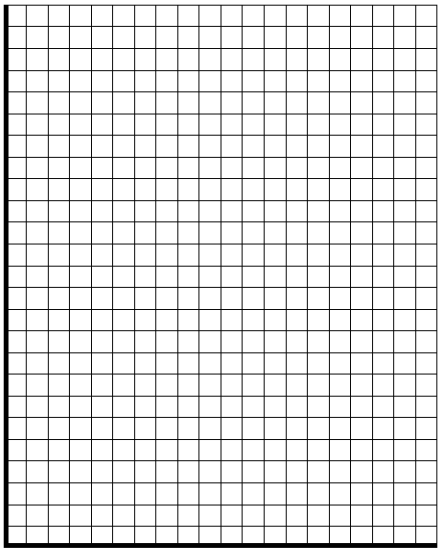
B. If the market price of wheat is $3.90/bushel next week, how many bushels of wheat can you predict will be sold?



16. The table below shows the age and systolic blood pressure for a group of people who recently donated blood.

AGE	35	24	48	50	34	55	30	26	41	37
Blood Pressure	128	108	140	135	119	146	132	104	132	121

A. Draw a scatter plot to show how age and systolic blood pressure are related.



B. Write a prediction equation that relates a person's age to their approximate blood pressure.

m = _____ b = _____ r = _____

y = _____

C. Find the approximate blood pressure of a person 54 years of age.