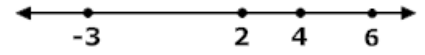


NAME: _____ Score _____/10

Please **print** your name**SHOW ALL YOUR WORK IN A NEAT AND ORGANIZED FASHION**

1. T **F** If both sides of an inequality are multiplied by the same real number, the resulting inequality is equivalent to the original inequality. **In the event the multiplier is a negative real number the resulting equation will not be equivalent to the original equation.**
2. T **F** If $3x^2 - 2x + 5$ is added to both sides of an equation, the resulting equation is equivalent to the original equation. **The first of the two basic properties of equations states that if any expression is added to both sides of an equation the result is an equation equivalent to the original equation.**
3. T **F** Refer to the Graph of Equation A at the right. The number 5 could be a solution to Equation A. **The definition of graph states that the graph is the set of all points whose coordinates are solutions of the equation. Loosely speaking the graph is a picture of the solution set. In this case 5 is not in the picture.**
4. T **F** The Graph of Equation A shown at the right could be the graph of a linear equation in one variable. **A linear equation in one variable has no solution, one solution, or all real numbers as solutions. Equation A whose graph is shown here has four solutions.**
5. T **F** The Graph of Equation A shown at the right could be the graph of a linear inequality in one variable. **The graph of a linear inequality in one variable will be the empty set, a ray, or the entire real line.**
6. T **F** $-3x < 12$ is equivalent to $x < -4$. **Both sides of the first inequality were multiplied by the reciprocal of -3 and the sense of the inequality was reversed. According to the third basic property of inequalities the two inequalities are equivalent.**
7. Consider the two equations $3x^4 - 7x^3 = 8x^5 + 2x^4$ and $3x^4 - 7x^3 + 2x - 17 = 8x^5 + 2x^4 + 2x - 17$. What is the relation between the two equations?
They are equivalent. Clearly $2x - 17$ was added to both sides of the original equation to obtain the second. According to the first basic property of equations, the two equations are equivalent.
8. Consider the statement $3x + 7x = (3 + 7)x$. What mathematics property justifies that equality?
The Distributive Property This is a straightforward application of the VERY IMPORTANT Distributive Property $a(b + c) = ab + ac$.



Graph of Equation A

Complete the following statement for the Order of Operations (2 points)

If no grouping symbols are involved algebraic expressions MUST be evaluated using the following order:

1. Evaluate all **exponential expressions**. **It is possible to evaluate exponential expressions but not exponents. For example consider the exponential expression 92. To evaluate the exponential expression means to replace 92 with 81. It make no sense at all to evaluate the exponent 2.**
2. Do all **multiplications** and **divisions** as they occur from left to right. **Multiplications and divisions must be done before additions and subtractions.**
3. Do all **additions** and **subtractions** as they occur from left to right.