

NAME: _____ Score _____/10

Please **print** your name

1. T F A quadratic equation in one variable is an equation which can be written as $ax^2 + bx + c = 0$ where a, b, and c are real numbers and $a \neq 0$.
2. T F $|3x + 7| < 5$ is equivalent to the compound inequality $-5 < 3x + 7 < 5$
3. T F $|3x + 7| > 5$ is equivalent to the compound inequality $-5 > 3x + 7 > 5$
4. T F The product of the opposite of a complex number and its norm is its conjugate.
5. T F If a negative number is added to both sides of an inequality and the sense of the inequality is reversed, the resulting inequality is equivalent to the original inequality.
6. T F If both sides of an equation are multiplied by an expression, the resulting equation is equivalent to the original equation.
7. T F The graph of a linear equation in one variable is on the Real Number line.
8. T F The circumference of a circle with radius r is given by the formula $C = \pi r^2$.
9. T F The norm of a complex number is a real number.
10. T F A quadratic equation in one variable can have no real solutions, exactly one real solution, or exactly three real solutions.
11. The collection of all solutions of an equation is called the _____ of the equation.
12. Two equations are equivalent if they have the same _____.
13. If _____ is added to both sides of an equation the resulting equation is equivalent to the original equation.
14. If both sides of an inequality are multiplied by the same _____ real number, the resulting inequality is equivalent to the original inequality.
15. A linear inequality in _____ is an inequality which can be written in the form $ax + b < 0$.
16. The graph of an inequality consists of all the points, and only those points, whose _____ are solutions of the inequality.
17. If both sides of an inequality are multiplied by the same _____ real number and the _____ symbol is _____, the resulting inequality is equivalent to the original inequality.
18. The opposite of the complex number $3 - 7i$ is _____.
19. The complex component of the complex number $-2 - 5i$ is _____.
20. State the Zero Factor Property.

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8. **T F** The circumference of a circle with radius r is given by the formula $C = \pi r^2$.
9. **T F** The norm of a complex number is a real number.
10. **T F** A quadratic equation in one variable can have no real solutions, exactly one real solution, or exactly three real solutions.
11. The collection of all solutions of an equation is called the **solution set** of the equation.
12. Two equations are equivalent if they have the same **solution set**.
13. If **an expression** is added to both sides of an equation the resulting equation is equivalent to the original equation.
14. If both sides of an inequality are multiplied by the same **positive** real number, the resulting inequality is equivalent to the original inequality.
15. A linear inequality in **one variable** is an inequality which can be written in the form $ax + b < 0$.
16. The graph of an inequality consists of all the points, and only those points, whose **coordinates** are solutions of the inequality.
17. If both sides of an inequality are multiplied by the same **negative** real number and the **inequality** symbol is **reversed**, the resulting inequality is equivalent to the original inequality.
18. The opposite of the complex number $3 - 7i$ is **$-3 + 7i$** .
19. The complex component of the complex number $-2 - 5i$ is **-5** .
20. State the Zero Factor Property.
- 21. If a and b are real numbers and if $ab = 0$, then $a = 0$ or $b = 0$.**