

Red indicates absolute minimum response. **Blue** together with **red** indicates the desirable response.

1. T **F** $3x + 5y$ is an equation.
2. T **F** Two equations are equal if they have the same solution set.
3. A **linear equation in one variable** is an equation that can be written in the form $ax + b = 0$ where a and b are real numbers with a not zero.
4. Show that 2 is a solution of $x^3 - 3x - 2x^2 + 6 = 0$. (Hint: Do not try to solve the equation)
 $2^3 - 3(2) - 2(2^2) + 6 = 8 - 6 - 8 + 6 = 0$
Because 2 satisfies the equation, 2 is a solution of the equation.
5. Compute the sum $(3 - 2i) + (-1 + 5i) = (3 - 1) + (-2 + 5)i = 2 + 3i$
6. Write the equation of the circle of radius 2 with center at $(3, -5)$.
Use $(x - k)^2 + (y - h)^2 = r^2$ to obtain $(x - 3)^2 + (y + 5)^2 = 2^2$
7. Write the formula for the volume of a cylinder with radius r and height 7.
Use $V = \pi r^2 h$ to obtain $V = \pi r^2 7 = 7\pi r^2$
8. Write the property of equations which assures us that $3x^5 + 2 = x^4$ and $3x^5 - x^4 + 2 = 0$ are equivalent equations.
If the same expression is added to (or subtracted from) both sides of an equation the resulting equation will be equivalent to the original equation.
9. State the Zero Factor Property
If a and b are real numbers and $ab = 0$, then $a = 0$ or $b = 0$.

COMMENTS

Never write two operation symbols next to each other. For example $3 + - 2$ is meaningless

Mathematics is case sensitive. You may not replace r with R .

A formula must contain an equal sign. A formula must be an equation.

Equivalence is a relation between two objects. One thing cannot be equivalent.

We only solve equations and inequalities. We do not solve sums or products.

“The solution” implies there is only one solution. “A solution” refers to one of possibly more solutions.

When you see or hear something (like The Zero Factor Property) and you do not know what it is, you should ask the instructor to state and/or explain that property.