

1. Algebra Errors to Avoid! – Solutions

First & Last Name: _____

Class: _____

Each of the following 16 problems has made a “fatal” algebra error. Describe the error that was made and then correct the right-hand side of the equation.

No.	Equation	Error Description	Corrected Equation
1	$2x - (3y + 4) = 2x - 3y + 4$	Incorrect distribution of the implicit -1 in front of the parentheses.	$2x - (3y + 4) = 2x - 3y - 4$
2	$5z + 3(x - 2) = 5z + 3x - 2$	Incorrect distribution of the 3 in front of the parentheses.	$5z + 3(x - 2) = 5z + 3x - 6$
3	$(5x)(6x) = 30x$	Incorrect monomial multiplication.	$(5x)(6x) = 30x^2$
4	$x(yz) = (xy)(xz)$	Distribution is not required for multiplication inside parentheses.	$x(yz) = xyz$
5	$a\left(\frac{x}{y}\right) = \frac{ax}{ay}$	Incorrect fraction multiplication.	$a\left(\frac{x}{y}\right) = \frac{ax}{y}$
6	$(4x)^2 = 4x^2$	Incorrect exponent distribution.	$(4x)^2 = 16x^2$
7	$\left(\frac{x}{y}\right)^3 = \frac{x^3}{y}$	Incorrect exponent distribution (with fractions).	$\left(\frac{x}{y}\right)^3 = \frac{x^3}{y^3}$
8	$\sqrt{25 - x^2} = 5 - x$	Cannot split radical signs when terms inside are added/subtracted.	$\sqrt{25 - x^2} = \sqrt{25 - x^2}$

continued...

No.	Equation	Error Description	Corrected Equation
9	$\sqrt{x+9} = \sqrt{x} + 3$	Cannot split radical signs when terms inside are add/subtracted.	$\sqrt{x+9} = \sqrt{x+9}$
10	$(a+b)^2 = a^2 + b^2$	Cannot distribute exponent into parentheses with terms being added.	$(a+b)^2 = a^2 + 2ab + b^2$
11	$-3^2 = 9$	Incorrect order of operations (PEMDAS).	$-3^2 = (-1)3^2 = -9$
12	$x^2 + 3x - 5 - (4x - 5) = x^2 - x - 10$	Incorrect distribution of the implicit -1 in front of the parentheses.	$x^2 + 3x - 5 - (4x - 5) = x^2 - x$
13	$\sqrt{7x} = 7x^{1/2}$	Missing parentheses: incorrect order of operations (PEMDAS).	$\sqrt{7x} = (7x)^{1/2}$
14	$3(2x - 5)^2 = 36x^2 - 180x + 225$	Incorrect order of operations (PEMDAS)	$3(2x - 5)^2 = 12x^2 - 60x + 75$
15	$\sqrt{x+y} = \sqrt{x} + \sqrt{y}$	Cannot split radical signs when terms inside are added/subtracted.	$\sqrt{x+y} = \sqrt{x+y}$
16	$x^{-3/2} = \frac{1}{\sqrt[3]{x}}$	Incorrect exponent rule.	$x^{-3/2} = \frac{1}{\sqrt{x^3}}$