**Lesson 3**

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| Topic Goal: Order of Operations |

What do you do if you are faced with a question like this

$7+(6 × 5^{2}+3)$ ?

You may wonder which part of the question to calculate first. Should you calculate from right to left? OR Left to right?

*But know this: calculate the numbers in the wrong order, and you will get the wrong answer!*  

To help you calculate questions like this and to make sure that you **always** get the answer right there is a simple rule that EVERYONE follows. It’s called BEDMAS.

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| B | E | D | M | A | S |
| Brackets | Exponents | Division | Multiplication | Addition | Subtraction |
| ( ) | $$2^{3}$$ | $$÷$$ | $$×$$ | + | - |

BEDMAS tells you which operation to do first.

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| Example(s):  |

Use BEDMAS to calculate the answer the to this question.

$$7+\left(6 × 5^{2}+3\right)$$

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| $$7+\left(6 × 5^{2}+3\right)$$$5^{2}$ = 5$ ×$ 5 = 25 | Start with the inside of the **brackets**. First calculate the **exponents**. Remember $5^{2}$ means multiplying 5 by itself twice.Make sure to write the rest of the numbers as they are.   |
| $7+\left(6 × 25+3\right) $ $6 × 25$ = 150 | Still working within the brackets we now multiply 6 and 25.Make sure to write the rest of the numbers as they are.   |
| $7+\left(150+3\right) $ $150+3$ = 153 | Lastly in the brackets we now can add the last two numbers. |
| 7 + 153  | Now we can add the final numbers. |
| 160 | You are done! |

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|  Practice Questions:  |

Solve the following using BEDMAS.

1. 72 + 5 × 12

Step 1: Multiply

5 × 12 =

Step 2: Add

72 + =

1. 5 × 42 + 12

Step 1:

Step 2:

1. 63 + 2 × 3
2. 35 ÷ 7 + 11 × 2 – 11
3. 27 - 4 + 14 × 3 + 44 ÷ 4
4. 15 × 5 ÷ 3 + 18 – 29
5. 28 ÷ 7 × (6 + 7) – (19 + 25)
6. (45 – 37)$ ^{2}$ ÷ 4 × 3 – 75
7. 64 ÷ (16 × 4) + 12 – (7 + 5)
8. 3$ ^{2}$ + ((18 + 4) – 12) ÷ 5 × 4
9. (7$ ^{3}$ ÷ 7) – 12 × 5 + (65 – 59)

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|  Assessment:  |

Use BEDMAS to calculate the answer to the following questions. Be sure to show your work.

1. 76 ÷ (23 – 21) × 2 + 9
2. 18 + (57 – 38) × 10 + 42
3. (94 –16) ÷ 3 + 2 × 6
4. ((8 × 12) ÷ 3) – 5 + 2
5. 28 ÷ 7 + ((6 × 2) + 4) ÷ 8
6. 4 + ((12 + 84) ÷ (24 × 3)) – 10
7. 2 × (14 ÷ 2)$ ^{2}$ + 5 × 12
8. 14 + ((4 × 3 – 3$ ^{2}$) ÷ 11 – 9)