



Alpha Omega Academy

IGNITIA LESSON SAMPLES



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ASSIGNMENTS

COURSES

Assignment - 4. Exponents and Order of Operations
Attempt 1 of 2

SECTION 3 of 4

QUESTION 6 of 14

1 2 3 4

ORDER OF OPERATIONS

Order of Operations
(Parentheses)
Exponents
Multiplication and Division
Addition and Subtraction

$$5[8 - 7(1^4 - 1)]$$

$$3^2 + 1$$
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To find the value of a multi-step numerical expression, a definite order of operations must be followed.

In mathematics, as in many areas, we have useful little sayings to help us remember important concepts. Most of you know that in music we use the statement, "Every good boy does fine," which helps us remember the note names, E-G-B-D-F. Similarly, we have the statement, "Please excuse my dear Aunt Sally," or PEMDAS, which tells us the order of operations. Each letter represents an operation as follows:

- P = Parentheses
- E = Exponents
- M = Multiplication and D = Division from left to right
- A = Addition and S = Subtraction from left to right

Evaluate expressions in the order represented by PEMDAS. If a step is not needed, skip it.

Example:

Find the value of $6 \cdot 2 \div 3 + 8 \cdot 4 \div 2$.

Solution:

In this problem, there are no parentheses or exponents, so begin by multiplying and dividing from left to right.

$$\begin{aligned} &6 \cdot 2 \div 3 + 8 \cdot 4 \div 2 \\ &= 12 \div 3 + 8 \cdot 4 \div 2 \\ &= 4 + 8 \cdot 4 \div 2 \\ &= 4 + 32 \div 2 \\ &= 4 + 16 \end{aligned}$$



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Assignment - 4. Exponents and Order of Operations
Attempt 1 of 2

SECTION 2 of 4

QUESTION 2 of 14

1 2 3 4

EXPONENTS



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Example:Find the value of the expression 2^3 .**Solution:**Multiply it out. 2^3 equals $2 \cdot 2 \cdot 2$, which equals 8.**Example:**Find the value of $(1.5)^5$.



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Assignment - 3. Radioactivity
Attempt 1 of 2

SECTION 1 of 1

QUESTION 1 of 10



1

2

3

4

5

6

7

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Match the following items.

- High-intensity bundle of energy being emitted from some decaying nuclei; it is symbolized by γ . beta particle
- particle radiating from the nucleus of some atoms; symbolized by ${}^4_2\text{He}$ or α . alpha particle
- Negative particle identical to an electron but radiating from a decaying nucleus gamma ray



NEXT QUESTION

ASK FOR HELP

TURN IT IN



HOW TO



RADIOACTIVITY

The nuclei of some atoms are naturally unstable. They fly apart of their own accord, and we cannot predict which one will fly apart next. At the same time, certain characteristics of a nucleus can be studied and predicted. Our study in this section will be to see how decaying nuclei can be detected and how we can measure that decay.

Here are your goals for this lesson:

- Discuss the work of Henri Becquerel and Marie Curie
- Explain what radioactivity means
- Distinguish between the three types of decay
- List two ways that radioactivity can be detected

DEFINED TERMS

beta particle	Negative particle identical to an electron but radiating from a decaying nucleus; it is symbolized by ${}_{-1}^0\text{e}$, or β^- .
gamma ray	High-intensity bundle of energy being emitted from some decaying nuclei; it is symbolized by γ .

DETECTION

As is true of many of the great discoveries in science, the discovery of radioactivity was an accidental, unplanned discovery. The setting was Forborne, Paris, 1896. The scene was a lab in which a man by the name of Professor Henri Becquerel was studying phosphorescent substances, those substances which, after being exposed to sunlight, will glow in the dark. The weather was cloudy, and Professor Becquerel wrapped some uranium ore in papers and put it in his desk drawer because, without the sunshine, he must delay his experimentation. He was not aware that he had placed the ore sample on a sealed envelope containing a photographic plate. Several days later, when Becquerel examined the photographic plate, he found that on the place where the ore had lain the plate had been developed as if it had been exposed to light. After further experimentation, he concluded that the uranium gave off rays continuously and that these rays could penetrate the paper and expose the film without its being exposed to sunlight. He called this process by which a substance gives off penetrating rays radioactivity.



The first method for detecting radioactivity was this use of photographic film. Becquerel's research continued, mainly under





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Assignment - 2. Genius Dashboard

Attempt 4 of 2



SECTION 1 of 1

QUESTION 1 of 2

< UNITS

AOA Orientation (2017) : 1. Orientation Activities

Due	Type	Title	Submitted Date	Graded Date	Score	Status	
12/12/2017	L	1. Your Alpha Omega Academy Ac...	01/08/2019	01/08/2019	50%	Graded	➔
12/12/2017 Overdue	L	2. Genius Dashboard	--	02/08/2018	--	Assigned	➔
12/13/2017 Overdue	L	3. Your Coursework in Ignitia!	02/08/2018	02/08/2018	50%	Not Started	
12/14/2017	L	4. Ignitia Navigation	01/08/2019	01/09/2019	100%	Graded	➔