Math 9

2.3 – Order of Operations with Powers

Does it matter in what order we calculate $-2 \times 3^2 + 10$? Let's see…

The order in which we <u>must</u> calculate expressions is determined by BEDMAS:

B   **E**   **D**   **M**   **A**   **S**

Some free tips for evaluating expressions:

1. Use BEDMAS to determine which operation to perform first and <u>underline</u> it!

2. Perform the <u>underlined</u> operation only.

3. Repeat steps 1 and 2 until the expression has been fully evaluated.

Examples: Evaluate the following:

1. $3^4 + 4^3$

2. $12 - 2^4$

3. $\left(4 + 2\right)^3$

4. $2^2 \times 3^3$

5. $\left(-3\right)^4 + 5^6$

6. $4 - 3 \times 2^4$

7. $(-2)^3 \times 3^2 + 15$

8. $\left[3^0 \times (-4)^3 - 12 \right]^2$

9. $5^3 - 3 \times 2^5 + 32$

10. $5^2 \div \left[(-10)^2 \div (-4) \right]$

11. $\dfrac{\left(10 - 2^2 \right)^2 - 6}{-2^4 + 10}$

12. Congratulations! You've just won a lottery for $1 Million. All you need to do is correctly answer the skill testing question below and the prize is yours. Good luck!!

Skill Testing Question: $-\left(40 - 3 \times 2^3 \right) \div \left[(-4)^2 - 40^0 \times 12 \right]$