End of mini-lesson #3

Assignment 14

Page 66# 3,4,5abcd

Practice

Check

3. Evaluate.

a) $3^2 + 1$ b) $3^2 - 1$
c) $(3 + 1)^2$ d) $(3 - 1)^2$
e) $2^2 + 4$ f) $2^2 - 4$
g) $(2 + 4)^2$ h) $(2 - 4)^2$
i) $2 - 4^2$ j) $2^2 - 4^2$

4. Evaluate. Check using a calculator.

a) $2^3 \times 5$ b) 2×5^2
c) $(2 \times 5)^3$ d) $(2 \times 5)^2$
e) $(-10)^3 \div 5$ f) $(-10) \div 5^0$
g) $[(-10) \div 5]^3$ h) $[(-10) \div 5]^0$

5. Evaluate.

a) $2^3 + (-2)^3$ b) $(2 - 3)^3$
c) $2^3 - (-3)^3$ d) $(2 + 3)^3$
e) $2^3 \div (-1)^3$ f) $(2 \div 2)^3$
g) $2^3 \times (-2)^3$ h) $(2 \times 1)^3$

Apply

6. a) Evaluate. Record your work.

i) $4^2 + 4^3$ ii) $5^3 + 5^6$

b) Evaluate. Record your work.

i) $6^3 - 6^2$ ii) $6^3 - 6^5$

7. Identify, then correct, any errors in the student work below. Explain how you think the errors occurred.

$3^2 + 2^2 \times 2^4 + (-6)^2$
$= 9 + 4 \times 16 - 36$
$= 13 \times 16 - 36$
$= 172$

8. State which operation you will do first, then evaluate.

a) $(7)(4) - (5)^2$ b) $6(2 - 5)^2$
c) $(-3)^2 + (4)(7)$ d) $(-6) + 4^0 \times (-2)$
e) $10^2 \div [10 \div (-2)]^2$ f) $[18 \div (-6)]^3 \times 2$

9. Sometimes it is helpful to use an acronym as a memory trick. Create an acronym to help you remember the order of operations. Share it with your classmates.

An acronym is a word formed from the first letters of other words.

10. Evaluate.

a) $(3 + 4)^2 \times (4 - 6)^3$
b) $(8 \div 2^2 + 1)^3 - 3^5$
c) $4^3 \div [8(6^0 - 2^1)]$
d) $9^2 \div [9 \div (-3)]^2$
e) $(2^2 \times 1^3)^2$
f) $(11^3 + 5^2)^0 + (4^2 - 2^4)$

11. Explain why the brackets are not necessary to evaluate this expression.
$(-4^3 \times 10) - (6 \div 2)$
Evaluate the expression, showing each step.

12. Winona is tiling her 3-m by 3-m kitchen floor. She bought stone tiles at \$70/m^2. It costs \$60/m^2 to install the tiles. Winona has a coupon for a 25% discount off the installation cost. This expression represents the cost, in dollars, to tile the floor:
$70 \times 3^2 + 60 \times 3^2 \times 0.75$
How much does it cost to tile the floor?

13. Evaluate this expression:
$2^3 + (3 \times 4)^2 - 6$
Change the position of the brackets. Evaluate the new expression. How many different answers can you get by changing only the position of the brackets?