

## Notes 1-7

## Int 1

## Order of Operations with Exponents

## Unit 1

## Find the Mistake

Use the space provided to correctly solve the following problems using the order of operations.

## Problem

1)  $6^2 \cdot 2 \div 4$   
 $12 \cdot 2 \div 4$   
 $24 \div 4$   
 $= 6$

$$6^2 \neq 12$$

$$6^2 = 36$$

## Correction

1)  $6^2 \cdot 2 \div 4$   
 $\downarrow$   
 $36 \cdot 2 \div 4$   
 $72 \div 4 = \boxed{18}$

2)  $8^2 - 5^2$

2)  $3^2$   
 $= 9$

They subtracted  
 $8-5$  before  
 doing exponents

$$8^2 - 5^2$$

2)  $64 - 25$   
 $\boxed{39}$

3)  $4 + 18 \div 2 \cdot 3$

3)  $22 \div 2 \cdot 3$   
 $11 \cdot 3$   
 $= 33$

Forgot the correct  
 order of the  
 operations

$$4 + 18 \div 2 \cdot 3$$

3)  $4 + 9 \cdot 3$   
 $4 + 27 = \boxed{31}$

4)  $-60 - 10 \cdot 2$

4)  $-60 - 20$   
 $= -40$  that is incorrect.

$$-60 - 10 \cdot 2$$

4)  $-60 + 20$   
 $-60 + -20 = \boxed{-80}$

$$20 - 25 \div 5^2 \cdot (-2)$$

$$20 - 25 \div 25 \cdot (-2)$$

5)  $20 - 1 \cdot (-2)$   
 $\downarrow$   
 $19 \cdot (-2)$   
 $= -38$  Should multiply  
BEFORE  
 subtracting!

5)  $20 - 1(-2)$

$$20 - -2$$

$$20 + 2 = \boxed{22}$$

## Notes 1-7

## Int 1

## Order of Operations

## Unit 1

Evaluate the following expressions using the order of operations.

$$6) \quad 6 \cdot 3 \div 3^2 \cdot 2 + 4^3 \quad 4 + 64 = \boxed{68}$$

$$\underline{6 \cdot 3} \div 9 \cdot 2 + 64$$

$$\underline{18} \div 9 \cdot 2 + 64$$

$$\underline{2 \cdot 2} + 64$$

$$7) \quad 8[(2^3 + 9) - 4(3 + 2)] \quad 8[17 - 24]$$

$$8[(8 + 9) - 4(3 + 2)] \quad 8[-7] = \boxed{-56}$$

$$8[(17) - 4(6)]$$

$$8) \quad \left[ \frac{4(9-6)}{30 \div 15} \right] \cdot 11 = \left[ \frac{4(3)}{30 \div 15} \right] \cdot 11 = \left[ \frac{12}{2} \right] \cdot 11 = [6] \cdot 11 = \boxed{66}$$

$$10) \quad (3^3 \div 9 + 47) \div (2^5 + (-7))$$

$$\underline{27} \div 9 + 47 \div (32 + (-7))$$

$$(3 + 47) \div (25)$$

$$(50) \div (25) = \boxed{2}$$

In the problems below, insert operation symbols (+, -, •, ÷) and parenthesis ( ) so that the equation is correct. You cannot change the order of the numbers.

$$11) \quad (5 \cdot 4) + 3 - 2 - 1 = 20$$

$$\underline{20} + 3 - 2 - 1 = 20$$

$$23 - 2 - 1 = 20$$

$$21 - 1 = 20 \checkmark$$

$$12) \quad (5 + 4) \cdot (3 + 2) \cdot 1 = 45$$

$$(9) \cdot (5) \cdot 1 = 45$$

✓

$$45 \cdot 1 = 45 \checkmark$$