

Lesson 1 – *Review*

Order of Operations

Recall that when evaluating expressions with more than one operation there is a specific order to perform the operations (ie. BEDMAS)

1. **B** - Brackets (or parentheses)
2. **E** - Exponents (and roots)
3. **DM** – Division and/or Multiplication (left to right)
4. **AS** – Addition and/or Subtraction (left to right)

BEDMAS

B (brackets)

$$1. \underbrace{30 - 2} + 8$$

$$28 + 8$$

$$36$$

$$2. 30 - (2 + 8)$$

$$30 - 10$$

$$20$$

$$3. 25 - 5 \times 2$$

$$25 - 10$$

$$15$$

$$4. 25 - (5 \times 2)$$

$$25 - 10$$

$$15$$

E (exponents)

$$2^2 = 2 \times 2$$

$$2^3 = 2 \times 2 \times 2 = 8$$

$$10^3 = 10 \times 10 \times 10$$

$$= 1000$$

$$5. 30 - (2^3 + 8)$$

$$30 - (8 + 8)$$

$$30 - 16$$

$$14$$

$$6. 30 - (2 + 8)^3$$

$$30 - (10)^3$$

$$30 - 1000$$

$$-970$$

$$7. 30 - 2^3 + 8$$

$$\underbrace{30 - 8} + 8$$

$$22 + 8$$

$$30$$

D (division)

8. $6^2 \div 4$

$36 \div 4$

9

9. $(5 + 25) \div 2$

$30 \div 2$

15

BEDMAS

M 10. $5 \times 5 - 2$
 $25 - 2$
23

11. $5 + 5 \times 2$
 $5 + 10$
15

A 12. $6 \times 3 + 2$
 $18 + 2$
20

13. $6 + 3 \times 2$
 $6 + 6$
12

S 14. $5 + 6 - 2 + 3$
 $11 - 2 + 3$
 $9 + 3$
12

Ex. $20 \div 5 \times 6 + (16 - 3) - 3 \times 2^3 + 9$

$$= 20 \div 5 \times 6 + (16 - 3) - 3 \times 2^3 + 9$$

Brackets

$$= 20 \div 5 \times 6 + 13 - 3 \times 2^3 + 9$$

Exponents

$$= 20 \div 5 \times 6 + 13 - 3 \times 8 + 9$$

Division

$$= 4 \times 6 + 13 - 3 \times 8 + 9$$

Multiplication

$$= 24 + 13 - 3 \times 8 + 9$$

Multiplication

$$= 24 + 13 - 24 + 9$$

Addition

$$= 37 - 24 + 9$$

Subtraction

$$= 13 + 9$$

Addition

$$= 22$$

Ex. Simplify the following: $7 \times 4 - 3^2 \div 9 \times 2 - (15 - 8)$

$$\begin{aligned} &= 7 \times 4 - 3^2 \div 9 \times 2 - (15 - 8) \\ &= 7 \times 4 - 3^2 \div 9 \times 2 - 7 \\ &= 7 \times 4 - 9 \div 9 \times 2 - 7 \\ &= 28 - 2 - 7 \\ &= 19 \end{aligned}$$