

اللهم صلي وسلم وبارك علي سيدنا محمد  
وعلي اله وأصحابه أجمعين





## مهم جداً

هذا الملف للمراجعة السريعة واخذ الملاحظات عليه فقط ،لانه يحتوي على اقل من 20% مما يتم شرحه في الفيديوهات الاستعجال والاعتماد عليه فقط سوف يجعلك تخسر كميه معلومات وخبرات كثيره

**يجب عليك مشاهدة فيديو الدرس كاملا**

لاتنسى عمل لايك ومشاركة القناة لتعم الفائدة للجميع  
لا تنسونا من دعائكم

**ProgrammingAdvices.com**

Mohammed Abu-Hadhoud







# اساسيات مهمه لكل مبرمج اولويات الحساب Calculation Priorities



Mohammed Abu-Hadhoud

26+ Years of Experience

MBA, PMOC, PgMP®, PMP®, PMI-RMP®, CM, ITILF, MCPD, MCSd





Computer Foundations

# Calculation Priorities

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73% of people fail to solve this!

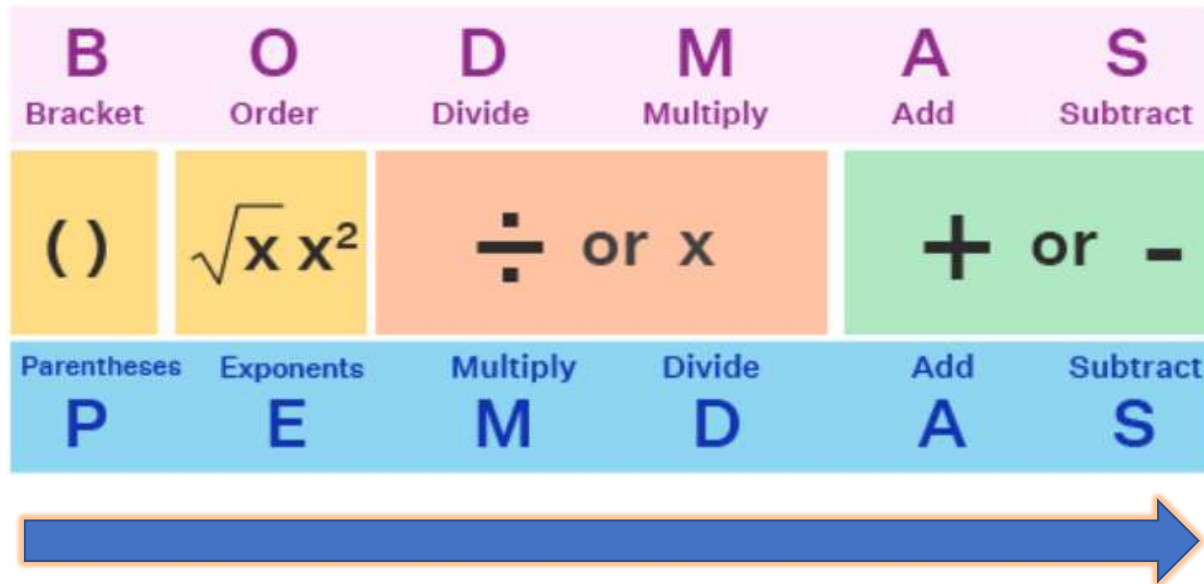
$$4 \times 4 + 4 \times 4 + 4 - 4 \times 4$$

Stop the video now,  
try to solve it  
and come back.

Why?!

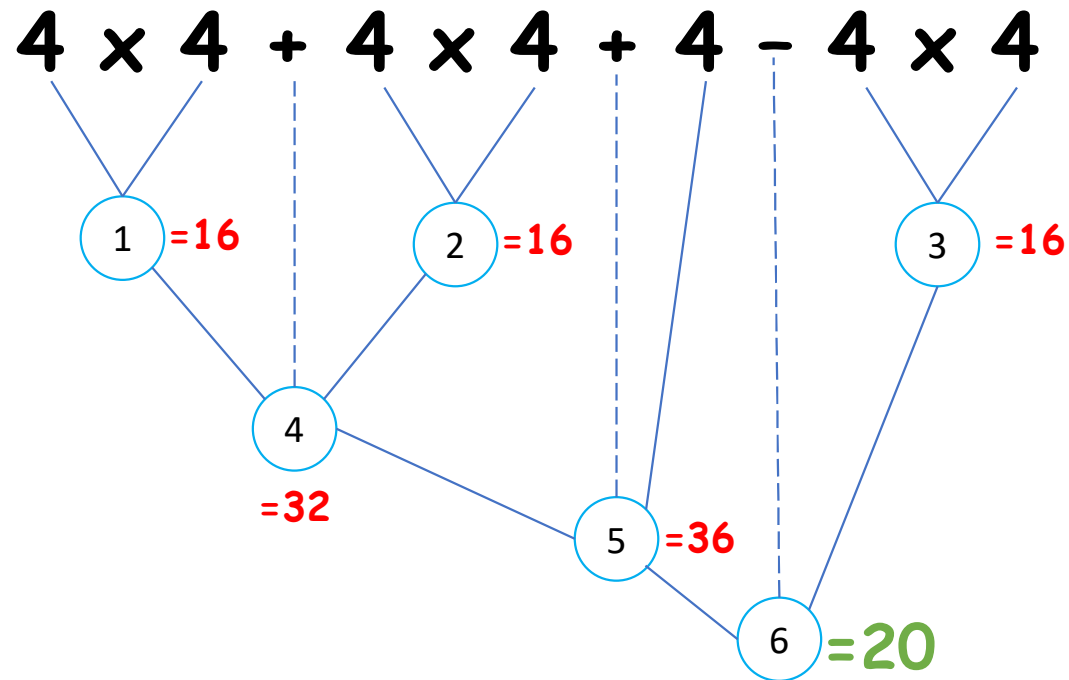
The answer is  
20

# Order of Operations



From Left to Right

Solve this:

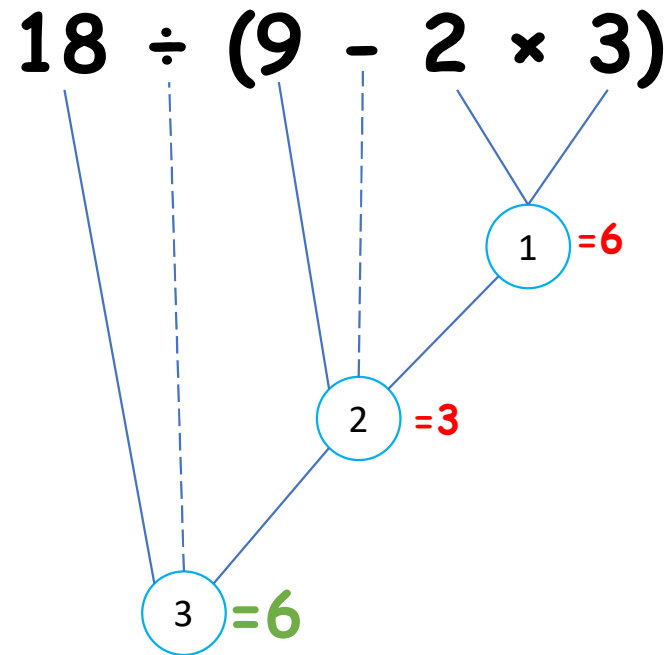


### Order of Operations

B	O	D	M	A	S
Bracket	Order	Divide	Multiply	Add	Subtract
( )	$\sqrt{x}$ $x^2$	$\div$ or $x$	$+$ or $-$		
Parenteses	Exponents	Multiply	Divide	Add	Subtract
P	E	M	D	A	S

From Left to Right

Solve this:



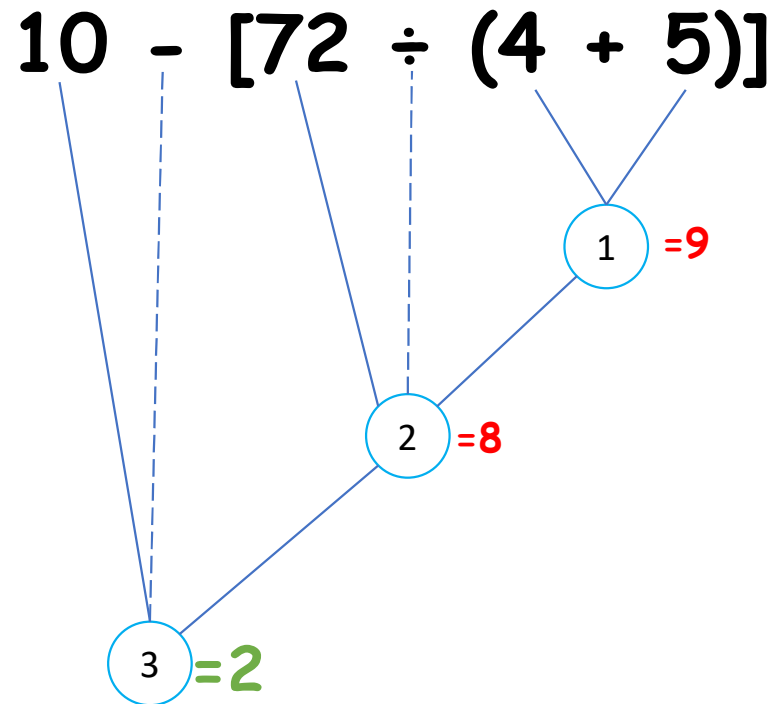
### Order of Operations

B	O	D	M	A	S
Bracket	Order	Divide	Multiply	Add	Subtract
( )	$\sqrt{x}$ $x^2$	$\div$ or $x$	$+$ or $-$		
Parenteses	Exponents	Multiply	Divide	Add	Subtract
P	E	M	D	A	S

From Left to Right



Solve this:

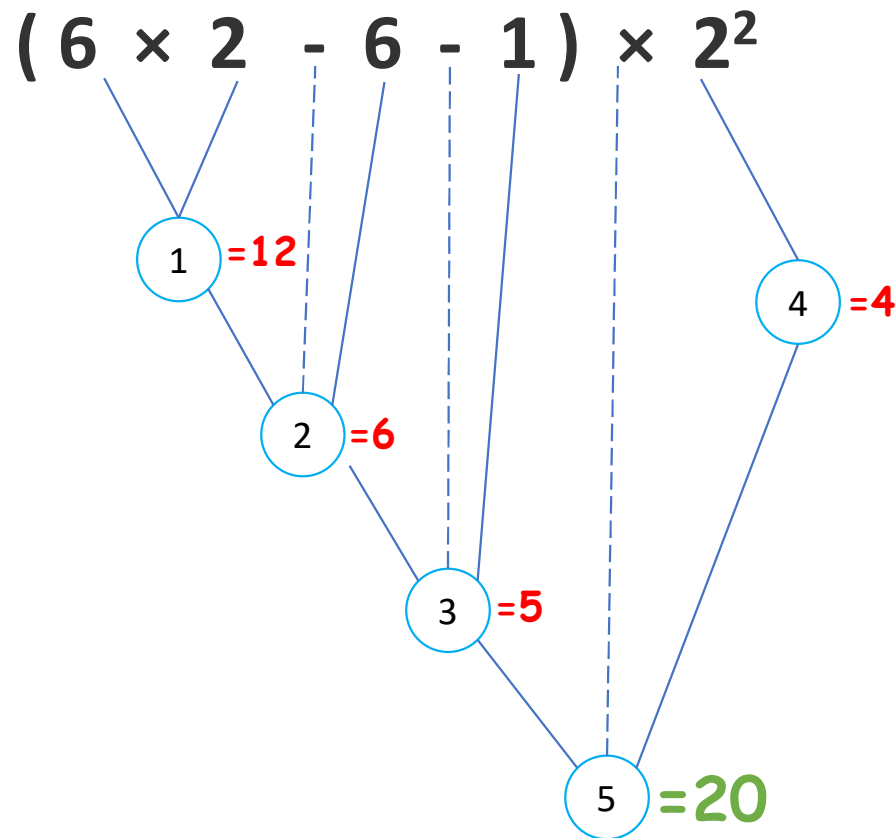


### Order of Operations

B	O	D	M	A	S
Bracket	Order	Divide	Multiply	Add	Subtract
( )	$\sqrt{x}$ $x^2$	$\div$ or $\times$	$+$ or $-$		
Parenteses	Exponents	Multiply	Divide	Add	Subtract
P	E	M	D	A	S

From Left to Right

Solve this:



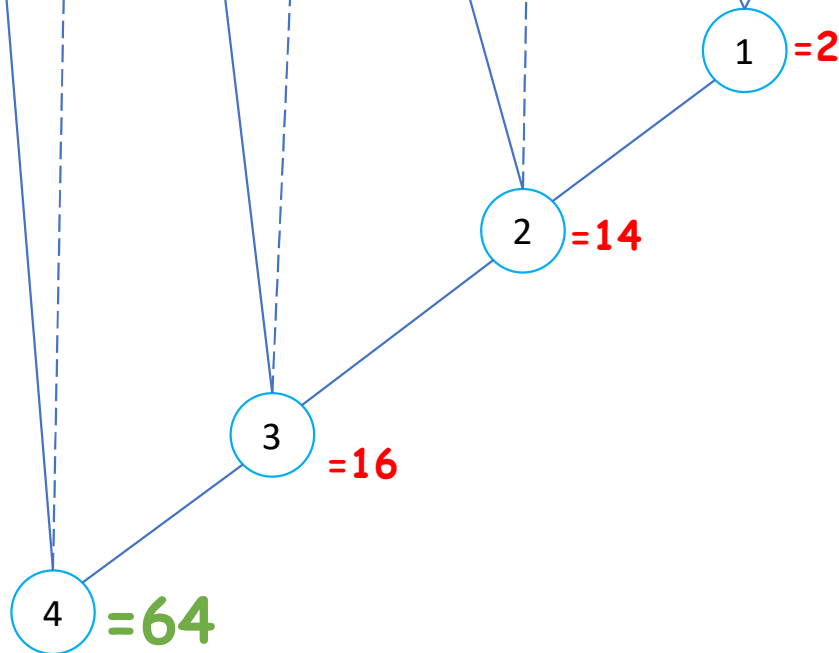
#### Order of Operations

B	O	D	M	A	S
Bracket	Order	Divide	Multiply	Add	Subtract
( )	$\sqrt{x}$ $x^2$	$\div$ or $\times$	$+$ or $-$		
P	E	M	D	A	S
Parenteses	Exponents	Multiply	Divide	Add	Subtract

From Left to Right

Solve this:

$$4 \times (2 + (7 \times (5 - 3)))$$



#### Order of Operations

B	O	D	M	A	S
Bracket	Order	Divide	Multiply	Add	Subtract
( )	$\sqrt{x}$ $x^2$	$\div$ or $x$	$+$ or $-$		
P	E	M	D	A	S
Parenteses	Exponents	Multiply	Divide	Add	Subtract

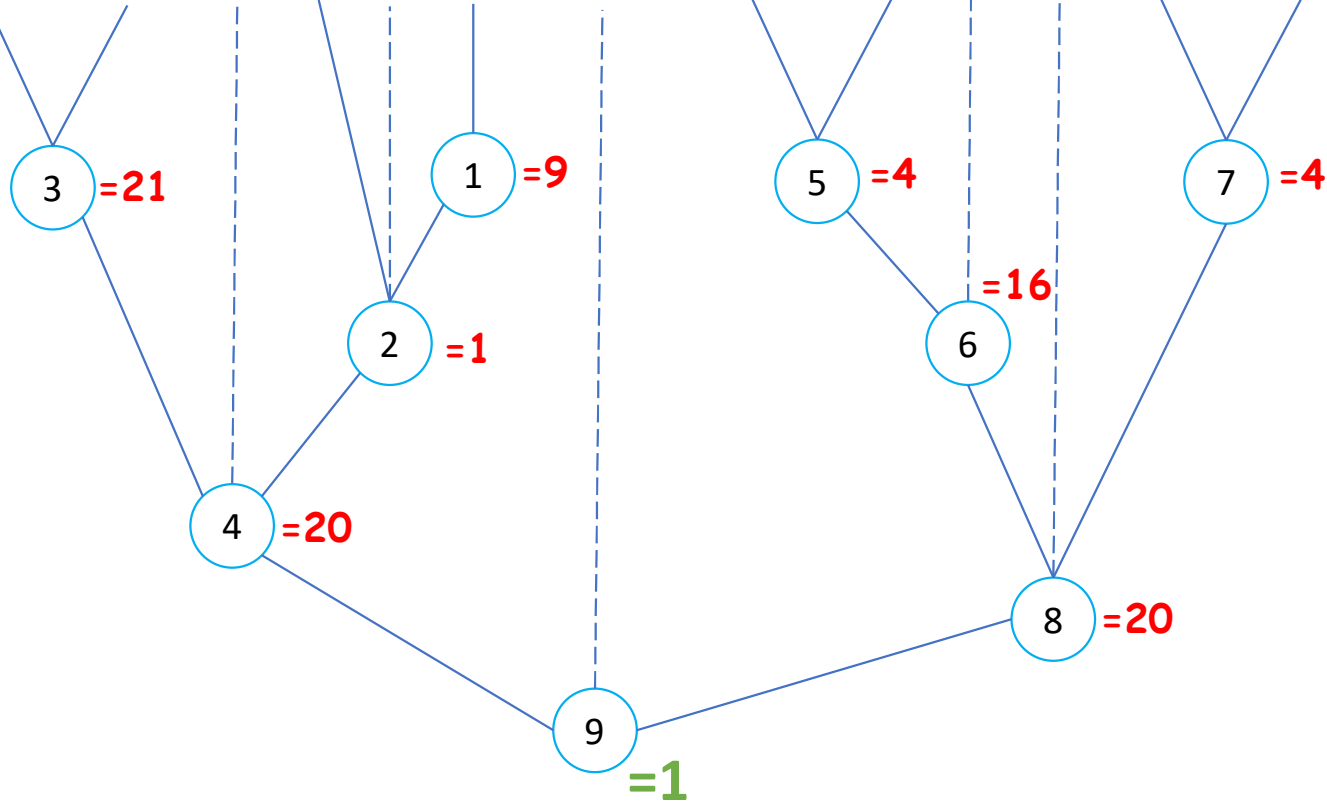
From Left to Right

**Solve this:**

Order of Operations					
<b>B</b>	<b>O</b>	<b>D</b>	<b>M</b>	<b>A</b>	<b>S</b>
Bracket	Order	Divide	Multiply	Add	Subtract
$()$	$\sqrt{x} \ x^2$	$\div$ or $\times$		$+$ or $-$	
Parentheses	Exponents	Multiply	Divide	Add	Subtract
<b>P</b>	<b>E</b>	<b>M</b>	<b>D</b>	<b>A</b>	<b>S</b>

From Left to Right

$$(1 + 20 - 9 \div 3^2) \div ((3 + 1)^2 + 8 \div 2)$$





# Computer Foundations

## Logic Priorities

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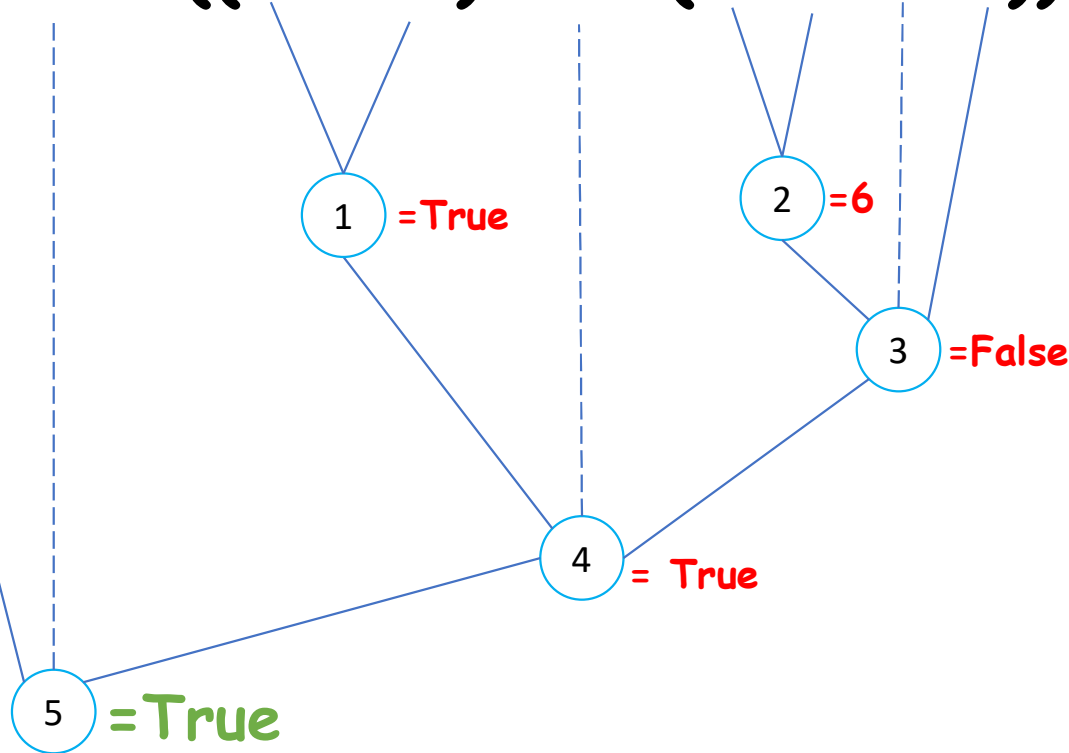
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Solve this:

True AND ((9 > 2) OR (4+2 = 5))



#### Order of Operations

B	O	D	M	A	S
Bracket	Order	Divide	Multiply	Add	Subtract
( )	$\sqrt{x}$ $x^2$	$\div$ or $x$	$+$ or $-$		
Parenteses	Exponents	Multiply	Divide	Add	Subtract
P	E	M	D	A	S

From Left to Right

# Homework



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RIGHT WAY

# Solve the following problems:

$$6 \div 3 + 4 \times 2$$

$$6 \times 4 - 12 \div 3 - 8$$

$$4 \times 4 - 3 \times 3 - 16 \div 4$$

$$20 - (3 \times 23 - 5)$$

$$(5 + 2)^2 - 9 \times 3 + 2^3$$

$$(7 - \sqrt{9}) \times (42 - 3 + 1)$$

$$5 \times (2^2 + 3) + (2^3)^2$$

$$6 \times 2 + 5 \times 1 + 4/2 - 1$$

$$1 + (2 \times (4 - 3 + 1) + 7) - 2$$

$$10 + 6 \times (3 - 2) \times 8/24 - 1$$

$$(20 - 18)^3 / 8 \times 3 - 1$$

$$(2 + 1 - 3 + 1 + 4)^2 - 2 \times 4$$

# Solve the following problems:

`(5 > 6 and 7=7) OR (1 Or 0)`

`NOT(5 > 6 and 7=7) OR (1 Or 0)`

`NOT(5 > 6 and 7=7) OR NOT (1 Or 0)`

`NOT(5 > 6 OR 7=7) AND NOT (1 Or 0)`

`((5>6 AND 7<=8) OR (8>1 and 4<=3) ) AND True`

`( (5>6 AND NOT(7<=8) ) AND (8>1 OR 4<=3) ) OR True`





Thank You

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