

Algebra: Skill 5 - 18C

Order of Operations

Order of Operation Rules

1. First, do the operations in parentheses.
2. Multiply and divide from left to right.
3. Add and subtract from left to right.

Step 1	Step 2	Step 3	Step 4
$15 \div 5 + 2 \times 3 - 2$ Since there are no parentheses, compute $15 \div 5$ first because moving from left to right you multiply or divide whichever comes first.	$\begin{array}{ccccccc} & 3 & + & 2 & \times & 3 & - & 2 \\ & \uparrow & & & & & & \\ 15 & \div & 5 & = & 3 & & & \end{array}$ The expression above shows the first computation completed. Moving left to right look for multiplication or division. Compute $2 \times 3 = 6$	$\begin{array}{ccccccc} 3 & + & 6 & - & 2 \\ & & \uparrow & & \\ & & 2 & \times & 3 & = & 6 \end{array}$ All of the multiplication and division is complete. Continue to move left to right adding and subtracting.	$\begin{array}{ccccccc} & 9 & - & 2 & = & 7 \\ & \uparrow & & & & & \\ 3 & + & 6 & = & 9 & & \end{array}$ The last operation which is subtraction is completed. The value of the expression is 7.

Look at this next example below.

$(48 \div 6) \times 3 + 2$ Complete the operation in the parentheses first.	$8 \times 3 + 2$ Now there are no parentheses so moving left to right, compute the multiplication or division.	$24 + 2$ Here, the multiplication is done. $8 \times 3 = 24$	$24 + 2 = 26$ Complete the last operation which is addition. The value of the expression is 26.
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Simplify the following expressions using the order of operations.

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|------------------------|--------------------------|------------------------|-------------------------|
| 1. $3 \times 4 - 2$ | 2. $5 \times 6 \div 3$ | 3. $4 + 3 \times 4$ | 4. $(3 + 4) \times 6$ |
| 5. $(3 \times 8) + 6$ | 6. $9 + (4 \times 5)$ | 7. $3 \times (5 + 3)$ | 8. $(49 + 5) \div 9$ |
| 9. $5 + (21 \div 7)$ | 10. $(12 + 8) \div 4$ | 11. $3 \times (6 + 9)$ | 12. $7 + (72 \div 9)$ |
| 13. $(20 + 29) \div 7$ | 14. $4 \times (8 + 2)$ | 15. $6 + (49 \div 7)$ | 16. $23 + (6 \times 7)$ |
| 17. $(15 + 39) \div 9$ | 18. $3 \times (15 + 21)$ | 19. $5 + (72 \div 8)$ | 20. $15 + (3 \times 4)$ |

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Directions: Evaluate each expression.

21. $12 - 15 \div 5 + (4 \times 6)$

22. $12 + 8 \times 6 - 7$

23. $14 + 8 \times 3 + (23 - 15)$

24. $7 + 4 \times (3 \times 8) - 7$

25. $6 \times 9 - 12 + (38 - 6)$

26. $(4 \times 7) + 12 \div 4$

27. $40 - 5 \times 6 + 12 \div 2$

28. $4 \times (3 + 9) - 2 \times 5$

29. $6 + 9 + 7 \times (3 + 8) - 6$

30. $(4 \times 7) + (3 + 8) - 12$

31. $7 \times 9 - 15 + (23 - 5)$

32. $(3 \times 9) + 25 \div 5 + 5$

33. $21 - 24 \div 8 + (3 \times 9)$

34. $5 + (6 \times 9) - (9 \times 3)$

35. $12 + 3 \times 8 + (32 - 7)$

36. $9 + 23 \times (2 \times 6) - 3$

37. $7 \times 9 - 15 + (43 - 9)$

38. $(5 \times 9) + 36 \div 9$

Grade 5 Skill 18C Answers

1. 10	2. 10	3. 48	4. 72	5. 30	6. 29	7. 45	8. 6
9. 8	10. 5	11. 45	12. 56	13. 7	14. 40	15. 13	16. 65
17. 6	18. 108	19. 45	20. 27	21. 36	22. 53	23. 46	24. 96
25. 74	26. 31	27. 16	28. 38	29. 86	30. 27	31. 66	32. 37
33. 45	34. 32	35. 61	36. 282	37. 86	38. 49		

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