



Helping With Math

USA
GRADES

Basic Order of Operations (MDAS)

Suitable for students
aged 7-9



This pack is suitable for learners aged 7-9 years old or 3rd to 4th graders (USA). The content covers fact files and relevant basic and advanced activities involving basic order of operations (MDAS).

M - ultiplication

D - ivision

A - ddition

S - subtraction

The **order of operations** is a **rule** that tells the correct sequence of steps for evaluating a **math** expression.

Why does MDAS important in solving math problems?

- It ensures that people can all read and solve a problem in the same way.
- Without a standard order of operations, formulas for real-world calculations in finance and science would be useless—and;
- It would be difficult to know if you were getting the right answer on a math test!

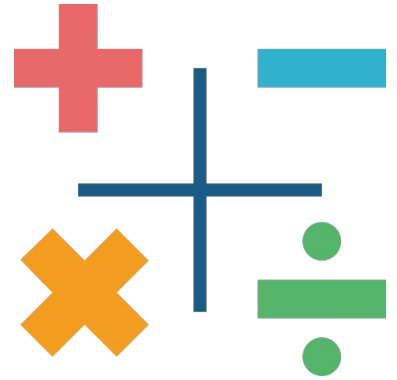


ILLUSTRATIVE EXAMPLES



Solve the following:

1. $51 + 10 \div 2 = ?$
2. $2 \times 9 + 57 = ?$
3. $80 - 6 \times 4 \div 2 = ?$



1. $51 + 10 \div 2 = ?$

Following the MDAS rule,

$$\begin{aligned} 51 + 10 \div 2 &= ? \\ 51 + 10 \div 2 &= 51 + 5 \\ 51 + 5 &= \underline{56} \end{aligned}$$



2. $2 \times 9 + 57 = ?$

Following the MDAS rule,

$$\begin{aligned} 2 \times 9 + 57 &= ? \\ 2 \times 9 + 57 &= 18 + 57 \\ 18 + 57 &= \underline{75} \end{aligned}$$



ILLUSTRATIVE EXAMPLES

3. $80 - 6 \times 4 \div 2 = ?$

Following the MDAS rule,

$$80 - 6 \times 4 \div 2 = ?$$

$$80 - 6 \times 4 \div 2 = 80 - 24 \div 2$$

$$80 - 24 \div 2 = 80 - 12$$

$$80 - 12 = \underline{66}$$



PRACTICE EXERCISES

Solve the following:

1. $92 + 15 \div 3 = ?$

2. $8 \times 4 - 57 = ?$

3. $300 - 50 \times 4 \div 2 = ?$



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RECRUITMENT DAY

G3
Basic

Today marks the recruitment day of the HWM soccer team midget players. To continue with their screening, the applicant should answer the following math questions.



7. Solve : ten times three minus six.

6. What is the value of five minus thirty divided by ten?



5. Solve for the value of 20 plus 5 divided by 5.

4. What is the value of nine times four plus six?

3. Solve: eighteen times two plus five.

2. Find the value of : fifteen minus seven divided by one.



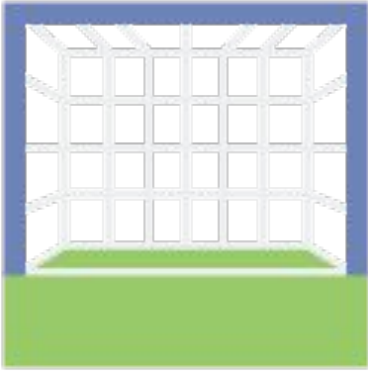
1. What is the value of 10 divided by 2 plus 5?



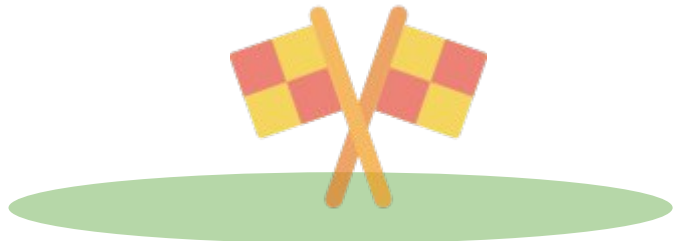
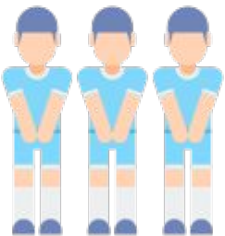
TRY OUT DAY 1

G3
Basic

To start the first day of try out, the players are asked to translate the following english sentences into mathematical equations.



1. Five times seven minus fifteen.
2. Seventeen plus five divided by one.
3. Eighteen plus twelve times three.
4. Fifty divided by five minus nine.
5. Eighty-one times two minus seventy.
6. Ninety-six plus four divided by two.
7. Sixty-six times three plus fifty-eight.
8. Ninety-nine minus nineteen times two.



NO PAIN, NO GAIN

G3
Basic

As the old saying goes, no pain means no gain. To be good at playing soccer, you need to practice a lot. Try these statements as you identify whether they are TRUE or FALSE.

- _____ 1. MDAS has four fundamental operations.
- _____ 2. Division is a fundamental operation.
- _____ 3. When you solve for the value of $81 \times 2 - 70$ the answer would be 92.
- _____ 4. Addition should be performed first before multiplication.
- _____ 5. When you solve for the value of $99 - 19 \times 2$ the answer would be 54.
- _____ 6. In MDAS operation , M stands for Mathematics.
- _____ 7. MDAS operation can also solve mathematical problems with roots.
- _____ 8. When you solve for the value of $18 + 12 \times 3$ the answer would be 54.



Why does MDAS important in solving mathematics problems?



PRE-GAME ROUTINE

G3
Basic

These pre-game routine will help the players warm-up and avoid game-related injuries. Try to answer the following questions.

For Numbers 1-4 ,

Enumerate 4 fundamental operations.

M-

D-

A-

S-



For Numbers 5-6

Solve for the value of ;

5. $69 \times 5 \div 5 + 20 - 3 =$

6. $29 \times 15 \div 5 - 72 + 100 =$



TEAM CAPTAIN SAYS...

G3
Basic

Let's hear what our team captain, Levi, will tell us about today's training. Show your solution if needed then encircle your answer.

1. MDAS has ___ fundamental operations.

- A. 5
- B. 4
- C. 2

2. The value of $5 \times 7 - 15$ is _____.

- A. 35
- B. 26
- C. 20

3. What is the missing number in this problem:

$$65 + _ \times 2 = 79$$

- A. 5
- B. 7
- C. 8

4. When you encounter this problem $6 - 2 \times 1$, What operation should you perform first?

- A. Subtraction
- B. Multiplication
- C. None

5. The value of twenty-eight plus six times 2 is _____.

- A. 30
- B. 36
- C. 40

6. What is the missing number in this problem

$$66 + 2 \times _ = 68?$$

- A. 1
- B. 7
- C. 3

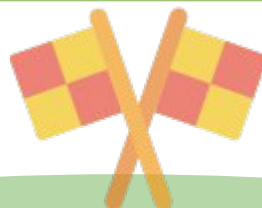
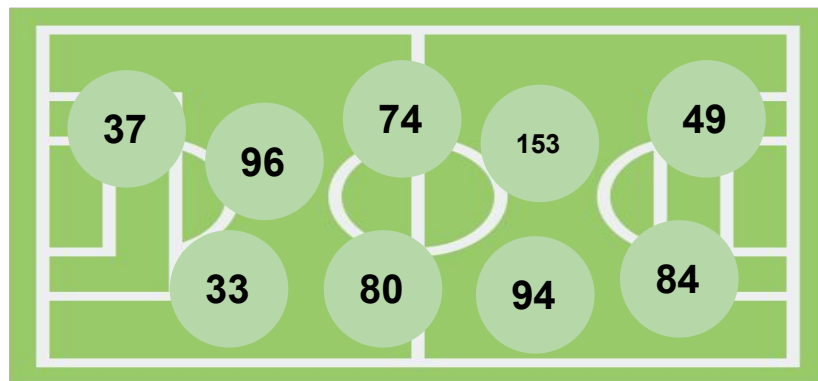


MATH MATCH

G4
Advanced

Can you also win on this math match like what you did on your first soccer game? Go and try it! All you need to do is to apply the MDAS rule to get the correct answer. The choices are given below.

1. $91 + 10 \div 2 = ?$	2. $3 \times 9 + 57 = ?$
3. $75 + 15 \div 3 = ?$	4. $68 - 52 \div 4 + 19 = ?$
5. $98 \div 2 + 3 \times 15 = ?$	6. $39 - 8 \times 3 \div 4 = ?$
7. $67 \times 2 + 38 \div 2 = ?$	8. $49 - 6 \times 4 \div 2 = ?$

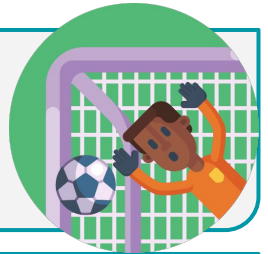


THE GOAL KEEPER'S DILEMMA

G4
Advanced

Ken is the team's goalkeeper. One of his math homeworks is given below. Can you help him with his dilemma? Compare the values that you will get using $<$, $>$, or $=$.

1. $87 \div 29 + 60 - 19$ ____ $9 \times 9 - 4 + 2$

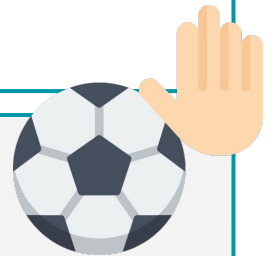


2. $98 \times 2 + 14 \div 2$ ____ $100 \times 2 + 6 - 3$

3. $33 + 9 \times 9 \div 3$ ____ $65 \times 2 + 9 - 2$

4. $55 \div 5 + 9 \times 3$ ____ $38 \times 15 \div 10 - 17$

5. $30 \times 4 - 67 + 1$ ____ $48 \div 8 + 6 - 10$



6. $19 + 17 \times 2 \div 2$ ____ $2 \times 9 + 18 \div 2$



BREAK A LEG!

G4
Advanced

Arrange the following number clues to get the desired number.
Remember, just like any other soccer game, break a leg!

22	38	6
1. ___ + ___ x ___ = 170		

15	3	4
2. ___ - ___ x ___ = 3		



17	76	2
3. ___ ÷ ___ - ___ = 21		

17	3	6	55
4. ___ - ___ x ___ + ___ = 10			



3	81	15	2
5. ___ + ___ ÷ ___ - ___ = 40			

6	15	3	98
6. ___ - ___ ÷ ___ - ___ = 87			



THE 1ST GOAL

G4
Advanced

Score your first goal by answering all of these mathematical equations correctly. Show your complete solution.

1. $77 + 19 \times 2 = ?$



2. $15 \div 3 - 2 = ?$



3. $88 + 6 \times 8 - 4 = ?$



4. $58 \div 2 \times 6 + 44 = ?$

5. $66 \div 6 - 9 + 91 = ?$

6. $98 \div 2 \times 6 - 16 \div 2 = ?$

7. $18 + 18 \times 4 \div 2 = ?$



8. $2 \times 66 \div 6 - 15 = ?$

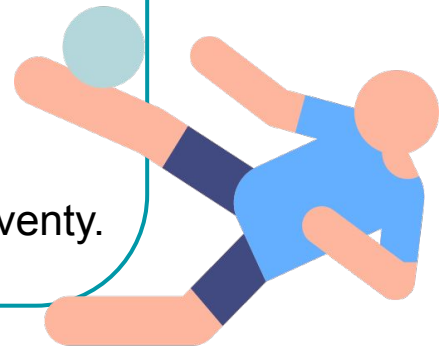


MAKING THE WINNING KICK

G4
Advanced

The game is tied. Your last shot will determine if your team wins or not. Make this winning shot by translating these to math sentences then solve.

1. Fifteen times eight minus three.
2. Eighteen divided by nine times two.
3. Twenty-two divided by two plus seventeen.
4. Ninety-two minus five times nine.
5. Sixteen times four plus seven minus ten.
6. Sixty-three minus 3 divided by one plus seventy.



ANSWER GUIDE

Activity 1

- | | | |
|--------|--------|--------|
| 1.) 10 | 4.) 42 | 7.) 24 |
| 2.) 8 | 5.) 21 | 8.) 64 |
| 3.) 41 | 6.) 2 | |

Activity 2

- | | | |
|-----------------------|-----------------------|-----------------------|
| 1) $5 \times 7 - 15$ | 4) $50 \div 5 - 9$ | 7) $60 \times 3 + 58$ |
| 2) $17 + 5 \div 1$ | 5) $81 \times 2 - 70$ | 8) $99 - 19 \times 2$ |
| 3) $18 + 12 \times 3$ | 6) $96 + 4 \div 2$ | |

Activity 3

- | | | |
|---------|----------|----------|
| 1. True | 4. False | 7. False |
| 2. True | 5. False | 8. True |
| 3. True | 6. False | |

Activity 4

- | | |
|----------------|-------------|
| MULTIPLICATION | SUBTRACTION |
| DIVISION | 5.86 |
| ADDITION | 6. 115 |

Activity 5

- | | |
|-------|------|
| 1. B. | 4. B |
| 2. C. | 5. C |
| 3. B. | 6. A |



ANSWER GUIDE

Activity 6

- | | | |
|--------|--------|--------|
| 1. 96. | 4. 74. | 7. 153 |
| 2. 84. | 5. 94. | 8. 37 |
| 3. 80. | 6. 33 | |

Activity 7

- | | | |
|----------------|------------------|-----------------|
| 1. $44 < 79$. | 2. $203 = 203$. | 3. $60 < 137$. |
| 4. $38 < 40$ | 5. $54 > 2$ | 6. $36 > 27$ |

Activity 8

- | | |
|------------------|--------------------|
| 1. 38 , 6 , 22. | 4. 55 , 3 , 17 , 6 |
| 2. 15 , 81 , 3 , | 5. 15 , 81 , 3 , 2 |
| 3. 98 , 15 , 3 , | 6. 98 , 15 , 3 , 6 |

Activity 9

- | | | |
|---------|---------|-------|
| 1. 115. | 4. 218. | 7. 54 |
| 2. 3. | 5. 93. | 8. 7 |
| 3. 132. | 6. 286 | |

Activity 10

- | | |
|-----------------------------|--------------------------------|
| 1. $15 \times 8 - 3 = 117$ | 4. $92 - 5 \times 9 = 47$ |
| 2. $18 \div 9 \times 2 = 4$ | 5. $16 \times 4 + 7 - 10 = 61$ |
| 3. $22 \div 2 + 17 = 28$ | 6. $63 - 3 \div 1 + 70 = 130$ |



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