

# Expressions

6th  
Grade

## PEMDAS

( ) PARENTHESES

$y^x$  EXPONENTS

$\times$  MULTIPLICATION

$\div$  DIVISION

$+$  ADDITION

$-$  SUBTRACTION



$x$	$4x + 1$
1	5
-2	-7
9	37
6	25
-3	-11

# Workbook 1

# Order of Operations: Exponents

E

Solve.

1)  $4^3 + 15 \div 3$

Ans =

2)  $7 \times 2^4 - 28$

Ans =

3)  $6^2 - 92 \div 4$

Ans =

4)  $2 \times 3^3 + 10$

Ans =

5)  $5^2 \times 6 - 85$

Ans =

6)  $64 \div 2^5 + 24$

Ans =

7)  $70 \div 5 - 2^3$

Ans =

8)  $4^2 + 7 \times 2$

Ans =

9)  $2 \times 3^3 + 1$

Ans =

10)  $7 + 80 \div 4^2$

Ans =

# Order of Operations: Exponents

M

Solve.

1)  $7^2 - 5 \times 12$

Ans =

2)  $19 + 3^4 \div 9$

Ans =

3)  $2^5 - 80 \div 2$

Ans =

4)  $5 \times 4^2 + 12$

Ans =

5)  $6^3 + 2 \times 3$

Ans =

6)  $108 \div 3^3 - 6$

Ans =

7)  $74 + 48 \div 4^2$

Ans =

8)  $9^2 - 10 \times 2$

Ans =

9)  $8^3 \div 16 + 2$

Ans =

10)  $4 \times 3 - 6^2$

Ans =

# Order of Operations: Exponents

D

Solve.

1)  $(-5)^2 \times 3 + 12$

Ans =

2)  $54 \div 3^3 - 8$

Ans =

3)  $4^2 + (-8) \div 2$

Ans =

4)  $25 + 2^2 \times 6$

Ans =

5)  $7^3 - 17 \times 5$

Ans =

6)  $3^4 \div 9 - 21$

Ans =

7)  $14 \div 7 + 5^2$

Ans =

8)  $2^5 \times (-6) + 3$

Ans =

9)  $(-8)^2 + 2 \times 4$

Ans =

10)  $14 - 81 \div (-3)^3$

Ans =

# Order of Operations: Exponents

E

Solve.

1)  $6 - 12 \div 4 + 9^2 \times 2$

Ans =

2)  $5^3 - 30 \div 3 + 4^2$

Ans =

3)  $18 \div 6 + 8^2 \times 3 + 2^5$

Ans =

4)  $48 \div 2 \times 5 + 7^2 - 3$

Ans =

5)  $4 \times 5 + 3^3 - 15 \div 5$

Ans =

6)  $9 \times 3^2 \div 9 - 4$

Ans =

7)  $44 + 11 - 2^4 \div 2^3 \times 3$

Ans =

8)  $8 \times 4 + 10^2 \div 5$

Ans =

9)  $32 + 28 \div 4 \times 3^2 - 95$

Ans =

10)  $6^3 - 52 + 9 \times 3$

Ans =

# Order of Operations: Exponents

M

Solve.

1)  $5^2 + 26 \div 2 - 67$

Ans =

2)  $16 \times 2^3 - 19 + 3^2$

Ans =

3)  $19 - 10 \div 5 + 6^2 \times 2$

Ans =

4)  $4^2 \times 3 - 2^4 + 21 \div 7$

Ans =

5)  $8^2 + 1 \times 5 - 45$

Ans =

6)  $24 \div 3 + 5^3 - 13^2$

Ans =

7)  $48 \div 12 - 4^3 + 3$

Ans =

8)  $9^2 + 2 \times 3 \div 6 - 49$

Ans =

9)  $3 \times 2^5 + 15 - 12^2$

Ans =

10)  $8 + 88 \div 11 - 4^3 + 2$

Ans =

Pages 6 to 20 are available only for members.

Subscribe to unlock 200+ math  
workbooks and 40,000+ worksheets  
in all subjects.

Scroll down for additional free pages.

## Evaluate the Expressions: Multi-variables

D

Evaluate the algebraic expressions for the given values of each variable.

1)  $3x + y$  at  $x = \frac{1}{2}, y = 2$

2)  $\frac{pq}{r} - p$  at  $p = 4, q = 1, r = -2$

3)  $4fgh + 5$  at  $f = -1, g = 2, h = 3$

4)  $n^2 - m^2$  at  $m = \frac{1}{3}, n = 1$

5)  $\frac{s-4}{t^2}$  at  $s = -5, t = 2$

6)  $(u + v)^2$  at  $u = 1, v = 3$

7)  $abc$  at  $a = \frac{2}{5}, b = 1, c = 4$

8)  $-8x + 3y$  at  $x = 4, y = \frac{1}{3}$



## Multiple Choice

### Part - A

- 1) Which of the following satisfies  $2x^2 + 5x = 7$ ?
- i)  $x = 1$                       ii)  $x = -2$                       iii)  $x = 5$                       iv)  $x = 0$
- 2) Which of the following satisfies  $5u + 1 = -4$ ?
- i)  $u = 3$                       ii)  $u = 7$                       iii)  $u = \frac{1}{5}$                       iv)  $u = -1$
- 3) Which of the following satisfies  $\frac{v}{2} - 2 = 1$ ?
- i)  $v = 2$                       ii)  $v = 6$                       iii)  $v = 10$                       iv)  $v = 30$
- 4) Which of the following satisfies  $3m - 5 = 10$ ?
- i)  $m = -1$                       ii)  $m = 0$                       iii)  $m = -3$                       iv)  $m = 5$

### Part - B

- 1) Which of the following equation is true at  $s = 5$ ?
- i)  $s + 2 = 7$                       ii)  $s - 3 = 12$                       iii)  $2s + 5 = 23$                       iv)  $\frac{s}{5} - 1 = 8$
- 2) Which of the following equation is true at  $r = -1$ ?
- i)  $r^2 + 2r = 3$                       ii)  $\frac{r}{5} + 5 = -8$                       iii)  $(r - 1)(2r + 1) = 2$                       iv)  $r^3 + 3r = -9$
- 3) Which of the following equation is true at  $a = 2$ ?
- i)  $(a + 1)(5a - 3) = 2$                       ii)  $a^2 + 7a + 2 = 37$                       iii)  $\frac{2}{a} + 1 = -7$                       iv)  $\frac{3a - 2}{a} = 2$

## Multiple Choice

### Part - A

- 1) Which of the following satisfies  $u + v = 3$ ?
- i)  $u = 3, v = 0$       ii)  $u = 4, v = 1$       iii)  $u = -1, v = 2$       iv)  $u = 6, v = 10$
- 2) Which of the following satisfies  $(2a + 1)(b - 1) = 28$ ?
- i)  $a = 1, b = 1$       ii)  $a = 3, b = 5$       iii)  $a = \frac{1}{2}, b = 4$       iv)  $a = 10, b = -3$
- 3) Which of the following satisfies  $\frac{2m + 1}{5n - 1} = \frac{11}{4}$ ?
- i)  $m = 2, n = \frac{1}{5}$       ii)  $m = \frac{1}{2}, n = -1$       iii)  $m = 5, n = 1$       iv)  $m = -2, n = 0$
- 4) Which of the following satisfies  $2xy(z + 1) = 30$ ?
- i)  $x = 1, y = -2, z = 1$       ii)  $x = 0, y = 4, z = 9$       iii)  $x = 3, y = 1, z = 4$       iv)  $x = 7, y = 8, z = -1$

### Part - B

- 1) Which of the following equation is true at  $x = 3$  and  $y = 1$ ?
- i)  $x + y = 3$       ii)  $x + y = 5$       iii)  $x - y = 1$       iv)  $x + y = 4$
- 2) Which of the following equation is true at  $p = 2$  and  $q = 4$ ?
- i)  $p + q = 6$       ii)  $p - q = 0$       iii)  $\frac{p}{q} = 8$       iv)  $2p + q = 10$
- 3) Which of the following equation is true at  $s = -1, t = 1$  and  $u = 2$ ?
- i)  $s + t - u = 4$       ii)  $2s - 3t + u = -1$       iii)  $5s - t - u = -8$       iv)  $\frac{s}{t} + u = 10$

## Function Table

E

Complete the function tables.

1)

z	$z^2(z + 3)$
-2	
-1	
-3	
1	
2	

2)

v	$v^2 - 10$
5	
-8	
6	
-10	
4	

3)

c	$\frac{c}{4} - 2$
24	
36	
12	
80	
8	

4)

q	$2q + 1$
3	
7	
2	
10	
1	

5)

b	$(b + 5)(b + 2)$
4	
-2	
1	
5	
-1	

6)

n	$\frac{16}{n + 1}$
7	
0	
3	
15	
1	

## Function Table

M

Complete the function tables.

1)

x	$(8x - 5)(2x + 3)$
-2	
0.5	
$\frac{3}{4}$	
-6	
$\frac{1}{2}$	

2)

r	$r^2 - 3r - 12$
-1	
0.8	
10	
2	
$-\frac{2}{3}$	

3)

a	$2a^2 + 7$
$\frac{1}{3}$	
-9	
-0.1	
18	
$\frac{1}{4}$	

4)

p	$7p(2p + 4)$
0.3	
-7	
$\frac{1}{7}$	
-8	
$\frac{1}{3}$	

5)

t	$3t^2 - t$
0.3	
8	
$\frac{7}{3}$	
$-\frac{1}{5}$	
-1	

6)

m	$\frac{(m + 5)(2m - 3)}{m + 4}$
-3	
$\frac{1}{2}$	
5	
2	
1	