# Exercise 2C

*Do not use a calculator for this exercise unless stated otherwise.*

**BASIC LEVEL**

**1.** Find the value of each of the following.

(a) $3 \times (-9)$ (b) $-8 \times 4$

(c) $-7 \times (-5)$ (d) $-1 \times (-6)$

(e) $-2(-7)$ (f) $-6 \times 0$

**2.** Evaluate each of the following.

(a) $-21 \div 7$ (b) $16 \div (-2)$

(c) $-8 \div (-2)$ (d) $\frac{-14}{2}$

(e) $\frac{15}{-5}$ (f) $\frac{-18}{-3}$

**3.** Find the square roots of each of the following numbers.

(a) 81 (b) 16

(c) 25 (d) 100

**4.** Evaluate each of the following where possible.

(a) $\sqrt{81}$ (b) $\sqrt{4}$

(c) $-\sqrt{9}$ (d) $\sqrt{-36}$

**5.** Evaluate each of the following.

(a) $(-2)^1$ (b) $(-5)^1$

(c) $(-10)^1$ (d) $(-6)^1$



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6. Evaluate each of the following.

(a) $\sqrt[3]{27}$ (b) $-\sqrt[3]{64}$

(c) $\sqrt[3]{8}$ (d) $\sqrt[3]{-216}$

7. Find the value of each of the following.

(a) $-55 + (-10) - 10$

(b) $-12 - [(-8) - (-2)] + 3$

(c) $-100 + (-45) + (-5) + 20$

(d) $-2 + 3 \times 15$

(e) $(-5 - 2) \times (-3)$

(f) $-25 \times (-4) \div (-12 + 32)$

(g) $3 \times (-3)^2 - (7 - 2)^2$

(h) $5 \times [3 \times (-2) - 10]$

(i) $-12 \div [2^2 - (-2)]$

(j) $\sqrt{10 - 3 \times (-2)}$

8. Use a calculator to check your answers for Question 7.

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# EXERCISE 2C

BASIC LEVEL :-

Q:5 Evaluate each of the following.

(a) $(-2)^3$

Solution:-

$$(-2)^3 = (-2) \times (-2) \times (-2)$$
$$= (+4) \times (-2)$$
$$= -8 \text{ Ans.}$$

(b) $(-5)^3$

Solution:-

$$(-5)^3 = (-5) \times (-5) \times (-5)$$
$$= (+25) \times (-5)$$
$$= -125 \text{ Ans.}$$

(c) $(-10)^3$

Solution:-

$$(-10)^3 = (-10) \times (-10) \times (-10)$$
$$= +(100) \times (-10)$$
$$= -1000 \text{ Ans.}$$

(d) $(-6)^3$

Solution:-

$$(-6)^3 = (-6) \times (-6) \times (-6)$$
$$= (+36) \times (-6)$$
$$= -216 \text{ Ans}$$

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Q#8:- Evaluate each of the following.

(a) $\sqrt[3]{27}$

$= \sqrt[3]{(3)^3}$

$= 3$ Ans.

$3 \times 3 \times 3 = 27$
$(3)^3 = 27$

(b) $-\sqrt[3]{64}$

$= -\sqrt[3]{(4)^3}$

$= -4$ Ans.

As $4 \times 4 \times 4 = 27$
$(4)^3 = 27$

(c) $\sqrt[3]{8}$

$= \sqrt[3]{(2)^3}$

$= 2$ Ans

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

(d) $\sqrt[3]{-216}$

$= \sqrt[3]{-(6)^3}$

$= -6$ Ans.

As $6 \times 6 \times 6 = 216$
$(6)^3 = 216$

Q#7:- Find the value of each of the followin

(a) $-55 + (-10) - 10$

Solution: $-55 - 10 - 10 = -55 - 20$

$= -75$ Ans.

OR

$-55 - 10 - 10 = -65 - 10$

$= -75$ Ans.

(b) $-12 - [(-8) - (-2)] + 3$

Solution:

$= -12 - [-8 + 2] + 3$

$= -12 - [-6] + 3$

$= -12 + 6 + 3$

$= -6 + 3$

$= -3$ Ans.

(C) $-100 + (-45) + (-5) + 20$

Solution:

$= -100 - 45 - 5 + 20$

$= -145 - 5 + 20$

$= -150 + 20$

$= -130$ Ans.

NOTE

DMAS Rule

1. Solve divide
2. Solve multiply.
3. Solve addition
4. Solve Subtraction.

(d) $-2+3\times15$

Sol:

$= -2 + 45$

$= +43$

$= 43$ Ans.

(e) $(-5-2)\times(-3)$

Sol:

$= (-7)\times(-3)$

$= +(7\times3)$

$= +21$

$= 21$ Ans.

(f) $-25\times(-4)\div(-12+32)$

Sol:-

$= -25\times(-4)\div(20)$

$= -25\times(-4)\div20$

$= -25\times\frac{-4\cancel{20}^{1}}{\cancel{20}_{5}}$

$= -\cancel{25}^{5}\times\frac{-1}{\cancel{5}_{1}}$

$= +5$

$= 5$ Ans.

(DMAS)

(i) ( ) Small
(ii) { } curly
(iii) [ ] Square

(g) $3 \times (-3)^2 - (7-2)^2$

Sol:-

$= 3 \times (-3 \times -3) - (7-2)^2$

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

$= 3 \times 9 - 25$

$= +27 - 25$

$= +2$

$= 2$ Ans.

(h) $5 \times [3 \times (-2) - 10]$ (DMAS)

Sol:

$= 5 \times [-6 - 10]$

$= 5 \times [-16]$

$= (+5) \times (-16)$

$= -(5 \times 16)$

$= -80$ Ans.

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(i) ( ): Small bracket
(ii) { }: curly bracket
(iii) [ ]: Square bracket

(i) $-12 \div [2^2 - (-2)]$

Sol:-

$= -12 \div [4 + 2]$

$= -12 \div 6$

$= -\frac{12 \times 2}{6}$

$= -2$ Ans.

(j) $\sqrt{10 - 3 \times (-2)}$ (DMAS rule)

Sol:-

$= \sqrt{10 + 6}$

$= \sqrt{16}$

$= \sqrt{4 \times 4}$

$= \sqrt{(4)^2}$

$= 4$ Ans