

Algebraic Expressions

1. Given $x = 0, y = -1, z = 3$. Find

a. $3xyz - 2y$

b. $yz^2 - 3x$

c. $3xyz^2 - 3y^2$

d. $\frac{5xz-2y^2}{2yz}$

e. $\frac{7x+8y+2z}{3z-2y-4x}$

f. $(xy + x)(z - x) - (2z - 3)$

2. Given $x = 4, y = -2, z = 3$, find value of $L = 2z + 15(x + y) + \frac{(x-y)^2}{4z}$.

3. The equation in finding perimeter of a rectangle is $P = 2(a + b)$. A and B represent height and width of the rectangle. Find the perimeter of the rectangle if given

a. $a = 3\text{cm}, b = 4\text{cm}$

b. $a = 1.2\text{cm}, b = 0.9\text{cm}$

c. $a = 4\frac{1}{2}\text{cm}, b = 3\frac{1}{4}\text{cm}$

4. Calculate

- I. $(10m - 9n) + (-8m - n)$
- II. $(7a - 2b) - (-3a - 7b)$
- III. $(9y - 2z) - (3y - 4z)$
- IV. $5x + 4(5x + 3)$
- V. $4u - 3(2u - 5v)$
- VI. $3a - 2(5a - 3b) - 2a$
- VII. $4(x - 1) + 5(2x + 3)$
- VIII. $-3(2h - k) + 4(k - 3h)$

- IX. $-4(a - 3b) - 5(a - 3b)$
- X. $3(p - 2q) - 4(2p - 3q - 5)$
- XI. $2(4b - 3) + 3(b - 1)$
- XII. $3(2b - 4a) - 2(3b - 7a)$
- XIII. $\frac{t-1}{3} + \frac{t+1}{2}$
- XIV. $\frac{p-2}{3} - \frac{p+1}{4}$
- XV. $1 - \frac{a-b}{a}$

5. Solve the equations

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| I. | $t - 8 = 3$ | XIX. | $\frac{1}{2}x - \frac{1}{4}x = x - 9$ |
| II. | $m - 31 = 31 - 3m - 2$ | XX. | $-\frac{3}{4}x - 6 = \frac{x}{4} + 2$ |
| III. | $x + 17 = 9$ | XXI. | $\frac{m}{2} - \frac{m}{3} - \frac{m}{4} = 1$ |
| IV. | $5x - 7 = 4x$ | XXII. | $\frac{2m-3}{4} = \frac{3m-2}{5}$ |
| V. | $7x - 16 = 6x + 2$ | XXIII. | $\frac{3x+1}{5} = \frac{2(x+1)}{3}$ |
| VI. | $10x + 18 = 9x + 9$ | XXIV. | $6 - \frac{3(n-1)}{4} = \frac{n}{2}$ |
| VII. | $2x + 1 = 3x - 5$ | XXV. | $\frac{1}{5}(2x - 1) + \frac{1}{4}(3x - 1) = 3$ |
| VIII. | $2x = 10 -$ | XXVI. | $\frac{x+1}{3} + \frac{x+3}{4} - \frac{x+4}{5} = 16$ |
| IX. | $6x = 54$ | XXVII. | $6x = 2x - (x - 4)$ |
| X. | $8t = -56$ | XXVIII. | $2(3x - 4) + 7(4 - x) = 4x$ |
| XI. | $-x = 8$ | XXIX. | $\frac{x}{6} - \frac{x}{9} = 1$ |
| XII. | $-9a = -45$ | XXX. | $x - \frac{14-x}{3} = 8$ |
| XIII. | $-4x = \frac{8}{5}$ | XXXI. | $\frac{x}{3} - 2\left(\frac{1}{5} + \frac{1}{3}x\right) = \frac{3}{5}x - \frac{2}{3}$ |
| XIV. | $-\frac{w}{6} = 6$ | XXXII. | $\frac{2x+3}{2} - \frac{x-2}{3} = \frac{x+1}{6}$ |
| XV. | $\frac{x}{3} = -7$ | | |
| XVI. | $\frac{m}{4} + 6 = m$ | | |
| XVII. | $1 + \frac{7z}{2} = z + 6$ | | |
| XVIII. | $\frac{x}{3} - \frac{2x}{7} = 4$ | | |