MATHS

BOOKS - ICSE

ALGEBRAIC EXPRESSIONS

Example

1. Add : $5a + 6b - 3c, 4b + c - 3a$ and $a - 6c - 3b$.

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2. Add : $3x^2 + 5x - 4, 2x + 3 - x^2$ and $8 - 3x + 7x^2$.

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3. Add : $3ax + 5by - cz$, $by - 6ax - 3cz$ and $5cz - ax - 2by$.

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4. Add : $5x^2 - 2xy + 8y^2$, $3xy - 7y^2 - 2x^2$ and $y^2 + xy - 4x^2$.

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5. Simplify : $6a^2 + 3ab + 5b^2 - 2ab - b^2 + 2a^2 + 4ab + 2b^2 - a^2$.

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6. Subtract: $3a + 4b - 2c$ from $6a - 2b + 3c$.

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7. Subtract: $2x^2 - 5x - 3$ from $4 + x - 3x^2$.

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8. What must be subtracted from $2x^2 - 3x + 1$ to get $x^2 + x - 2$?

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9. What must be added to $2x^2 - 3xy + 5y^2$ to get $x^2 - xy - y^2$?

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10. Subtract $a^3 + 3a - a^2 - 6$ from $2a^2 + a - 2a^3 + 3$ horizontally.

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Exercise 13 A

1. Identify monomials, binomials and trinomials from the following algebraic expressions:

$7b^2 \times a^3b$

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2. Identify monomials, binomials and trinomials from the following algebraic expressions:

$5 + 3x^3y^3z^2$

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3. Identify monomials, binomials and trinomials from the following algebraic expressions:

$3x^2 \div p$

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4. Identify monomials, binomials and trinomials from the following algebraic expressions:

$$\frac{3a + 2b - 5c}{7}$$

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5. Identify monomials, binomials and trinomials from the following algebraic expressions:

$xy + yz - zx$

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6. Identify monomials, binomials and trinomials from the following algebraic expressions:

$ax^2 + bx \times y^2$

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7. Write down the numerical as well as literal coefficient of each of the following monomials:

$-2p^3q^2$

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8. Write down the numerical as well as literal coefficient of each of the following monomials:

$\frac{5}{9}xyz^2$

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9. Write down the numerical as well as literal coefficient of each of the following monomials:

$-\frac{3ab^2}{2}$

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10. Write down the numerical as well as literal coefficient of each of the following monomials:

$$\frac{3}{a^2}$$

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11. Write down the numerical as well as literal coefficient of each of the following monomials:

$$\frac{2ab}{c}$$

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12. Write down the numerical as well as literal coefficient of each of the following monomials:

$$-\frac{2x^2}{yz}$$

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13. In $-5p^2q^3r^4$, write down the coefficient of :

p^2

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14. In $-5p^2q^3r^4$, write down the coefficient of :

$5pq^2$

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15. In $-5p^2q^3r^4$, write down the coefficient of :

p^2q^2

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16. In $-5p^2q^3r^4$, write down the coefficient of :

pqr

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17. In $-5p^2q^3r^4$, write down the coefficient of :

$-pq^2r^3$

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18. In $-5p^2q^3r^4$, write down the coefficient of :

$5q^3r$

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19. Identify like terms in the following:

$a^2, b^2, -2a^2, c^2, 4a$

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20. Identify like terms in the following:

$3x, 4xy, -yz, \frac{1}{2}zy$

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21. Identify like terms in the following:

$-2xy^2, x^2y, 5y^2x, x^2z$

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22. Identify like terms in the following:

$abc, ab^2c, acb^2, c^2ab, b^2ac, a^2bc, cab^2$

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23. Generate algebraic expressions for the following:

The product of a and b added to their sum.

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24. Generate algebraic expressions for the following:

The quotient of x by 8 is multiplied by y.

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25. Generate algebraic expressions for the following:

Thrice x added to y squared.

A. $y^2 + 4x$

B. $y^3 + 2x$

C. $y^2 + 3x$

D. $y^2 - 3x$

Answer: C

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26. Generate algebraic expressions for the following:

One-third of x multiplied by the sum of p and q.

A. $\frac{1}{4}x(p+q)$

B. $\frac{1}{3}x(p+q)$

C. $\frac{1}{3}x(p-q)$

D. $\frac{1}{4}x(p+q)$

Answer: B

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27. Generate algebraic expressions for the following:

The number to be added to x + y to make it equal to p.

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28. Generate algebraic expressions for the following:

From a rod (p+q) units in length, n equal pieces are cut. Find the length of each piece.

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29. Generate algebraic expressions for the following:

Five times m subtracted from the sum of p and thrice x.

A. $(p-3x)-5m$

B. $(p+3x)+5m$

C. $(p+3x)-5m$

D. $(px3x)-5m$

Answer: C

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30. Generate algebraic expressions for the following:

The number obtained when m times the difference of x and y is subtracted from n times the sum of x and y.

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31. Generate algebraic expressions for the following:

The sum of 7 numbers each equal to p.

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32. Generate algebraic expressions for the following:

The product of three numbers a, b and c subtracted from the sum of x and y.

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33. Identify which of the following expressions are polynomials. If so, write their degrees.

$\frac{2}{3}x^4 - 7x + 15$

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34. Identify which of the following expressions are polynomials. If so, write their degrees.

$8x^2 - 3x + 6\sqrt{x} + 1$

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35. Identify which of the following expressions are polynomials. If so, write their degrees.

$5x^2 - \frac{2}{x} + 7$

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36. Identify which of the following expressions are polynomials. If so, write their degrees.

$9x^2y^2 - 3xy^2 + 5x^2y - 6x$

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37. Identify which of the following expressions are polynomials. If so, write their degrees.

$6p^4 - p^3q^2 + pq^3 + q^4$

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38. Identify which of the following expressions are polynomials. If so, write their degrees.

$4x^5 - 7x^5y + 3xy^4 + 8y^5$

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39. Identify which of the following expressions are polynomials. If so, write their degrees.

$ab^2 - \frac{7}{a^2} + 5b^2 + 6$

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Exercise 13 B

1. Add the following expressions:

$2x^2, \ -5x^2 - x^2, 6x^2$

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2. Add the following expressions:

$x^2 - 2xy + 3y^2, 5y^2 + 3xy - 6x^2$

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3. Add the following expressions:

$2x + 9y - 7z, 3y + z - 3x, 3z - 4y - x$

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4. Add the following expressions:

$2ab + 3bc - 5ca, 4bc - 3ab + 7ca, 2ca - ab - 5bc$

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5. Add the following expressions:

$3x^3 + 2x^2 - 6x + 3, 2x^3 - 3x^2 - x - 4, 1 + 2x - 3x^2 - 4x^3$

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6. Add the following expressions:

$3n^2 + 5mn - 6m^2, 2m^2 - 3mn - 4n^2, 2mn - 3m^2 - 7n^2$

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7. Add the following expressions:

$3z^3 - z^2 + 5, 1 - 2z + z^2, 3 + 2z - z^3$

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8. Simplify:

$5x + 3y - 8z + 2y - 3x + 5z + z - 7y - 2x$

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9. Simplify:

$4x^3 - 2x^2 + 5x - 1 + 8x + x^2 - 6x^3 + 7 - 6x + 3 - 3x^2 - x^3$

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10. Simplify:

$2x^2 + 3xy - 3y^2 + x^2 - xy + y^2$

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11. Simplify:

$2 - 3z^2 + 5yz + 7y^2 - 8 + z^2 - 6yz - 9y^2 + 1 - 2z^2 - 2yz - y^2$

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12. Simplify:

$2m - 3n + 5p + 2m + n - 2p - 3m - 4n + p$

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13. Two two adjacent sides of a rectangel are $3a - b$ and $6b - a$. Find its perimeter.

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14. Find the perimeter of a triangle whose sides are $2y + 3z, z - y, 4y - 2z.$

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15. Subtract :

$3a - 2b + 4c$ from $5a - 3b - 5c$

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16. Subtract :

$5x^2 - 3xy - 7y^2$ from $3x^2 - xy - 2y^2$

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17. Subtract :

$3p^3 - 5p^2q$ from $q^2 + p^2q - 4p^3$

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18. Subtract :

$ab - bc - ca$ from $3ab + 2bc - 4ca$

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19. Subtract :

$3z^2 - 2z^2 + 7z - 8$ from $8 - z - z^2$

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20. Subtract :

$2abc - a^2 - b^2$ from $b^2 + a^2 - 2abc$

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21. Subtract $6x^3 - 5x^2 + 4x - 3$ from the sum $x + 2x^2 - 3x^3$ and $2 - x^2 + 6x - x^3$.

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22. Subtract the sum of $a + 2b - 3c$ and $2c - 3b - 4a$ from the sum of $5b - 4c + a$ and $2c - 3b - 4a$.

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23. Subtract the sum of $x^2 - 5xy + 2y^2$ and $y^2 - 2xy - 3x^2$ from the sum of $6x^2 - 8xy - y^2$ and $2xy - 2y^2 - x^2$.

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24. What should be subtracted from $x + 2y - 3z$ to get $3x - 2y + z$?

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25. What should be subtracted from $2x^2 - y^2 + 4z^2$ to get $x^2 + y^2 - z^2$?

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26. What should be subtracted from $1 + x - x^2$ to get $2x + x^2$?

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27. What should be added to $7a - 9b + 13c$ to get $9a + b - c$?

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28. What should be added to $1 + 2x - 3x^2$ to get $x^2 - x - 1$?

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29. What should be added to $m^2 - 2mn + 5n^2$ to get $n^2 + mn - m^2$?

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30. Find the excess of $4p^2 - 2pq + 3q^2$ over $2p^2 - pq + 4q^2$.

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31. By how much does $3x^3 - 5x^2 + 2x - 3$ exceed $2x^3 - 3x^2 + x + 1$?

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32. How much is $-x^2 + 7y^2 - 3xy$ less than $2x^2 - y^2 + xy$?

A. $3x^2 - 8y^2 + 4xy$

B. $4x^2 - 8y^2 + 4xy$

C. $3x^2 - 5y^2 + 4xy$

D. $3x^2 - 8y^2 - 4xy$

Answer: A

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33. How much is $x^3 - 3x^2 + 5x - 2$ less than $3 - 2x + x^2 - x^3$?

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34. If $x = 2a^2 + 3b^2 - 5ab, y = b^2 - 3a^2 + 7ab$ and $z = 6a^2 - b^2 + ab$,

find:

$x + y - z$

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35. If $x = 2a^2 + 3b^2 - 5ab$, $y = b^2 - 3a^2 + 7ab$ and $z = 6a^2 - b^2 + ab$, find:

$x - y + z$

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36. The perimeter of a triangle is $8 + 13a + 7a^2$ and two of its sides are $2a^2 + 3a + 2$ and $3a^2 - 4a - 1$. Find the third side of the triangle.

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37. The perimeter of rectangle is $16x^2 - 6x^2 + 12x + 4$. If one of its sides is $8x^2 + 3x$, find the other side.

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Examples

1. In the expression $3x^3 - 6x^2y + 4xy - 2x + y + 6x + x^2y + 9$, find for terms which are not constant the numerical coefficients and coefficient of y in terms involving Y.

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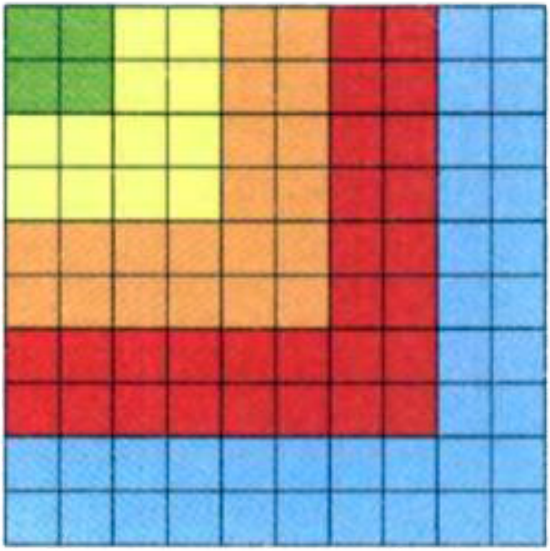
2. For the given algebraic expression $4a^2bc - 3a^2bc^2 + 2bc$, complete the following table, filling in the required coefficients.



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3. Identify the like terms,

$xy^2, \ -4yx^2, 8x^2, 7y, \ -11x^2, \ -100x, \ -11yx, 20x^2y, 6x^2, y, 2xy, 3x$

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4. Classify into monomials, binomials and trinomials.

$4y - 3y$

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5. Classify into monomials, binomials and trinomials.

$3a - 5b$

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6. Classify into monomials, binomials and trinomials.

z^2

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7. Classify into monomials, binomials and trinomials.

$3x^2 + xy - 4yx$

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8. Classify into monomials, binomials and trinomials.

$ab + bc + ca$

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9. Classify into monomials, binomials and trinomials.

$p^2 + q^2 + r^2 - 4q^2$

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10. Classify into monomials, binomials and trinomials.

$1 + x + 5$

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11. Find the degree of the polynomial

$9x^3 - 2x + 17x^2y - y^4 + 14$

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12. Find the degree of the polynomial $5x - 7$

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13. Find the degree of the polynomial 21

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14. Add $3x^2$ and $9x^2$

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15. Add x^2yz, $2yzx^2$ and $-4zx^2y$

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16. Add 3x+7 and x-4y+9

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17. Add $x^2 + y^2 + 3xy - 6$ and $2x^2 - 4y^2 - xy + 5$

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18. Add $4a^2b - 2b^2c + 3c^2a + 4abc - 5$ and $a^2b + b^2 - 2c^2 + 8ab$

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19. Subtract $3a^2 - 5a + 6b - 8$ from $2a^2 + 4a + 7ab + 1$

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20. What should be subtracted from $2p^2 + 3q^2 + 6pq$ to get $p^2 - q^2$?

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21. Subtract the sum of $\left(x^2 + 2y^2 + 7x^2y\right)$ and $\left(x^2 - 3xy^2\right)$ from the sum of $\left(x^2 - y^2 - xy\right)$ and $\left(3x^2 - 2y^2 - 7\right)$

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22. Write the number of terms and also list out the terms in each of the following algebraic expressions.

$(2xy)y + (4y) + z^2 - x\left(2y^2\right)$

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23. Write the number of terms and also list out the terms in each of the following algebraic expressions.

$(ab)(bc)(ca) - (ab)a + (bc)b - \left(a^2\right)b - \left(b^2\right)b$

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24. Write the number of terms and also list out the terms in each of the following algebraic expressions.

$(2a)(-a) + (3b)b - (5c)c + (2a)a - (2b)(-b)$

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25. Simplify the following

$5y - [2y - 5(2 - y)]$

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26. Simplify the following

$4x - (3x + 3) - [2x - 4[x + 3(x - 5)\}]$

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27. Find the value of $3x^2 - 5x + 8$ for x=3

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28. Find the value of $2a^2 + b^2 + 5$ when a=2 and b=-1

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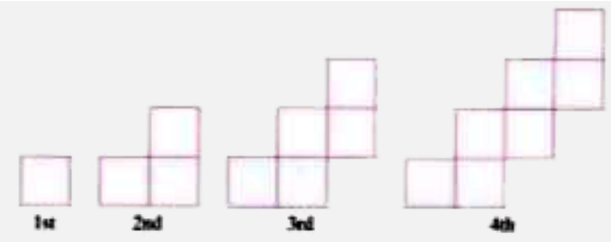
29. From an algebraic expression to give the number of line segments required to make the following pattern and hence find the number of line

segments required to make the 10th pattern.



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Exercise 6 1

1. From the given algbraic expression $(2ab)(3ac) - \left(6c^2\right)(ca) + (2ab)(- ac)$ complete the following table filling in the required coefficients . Write NA for the reaction that do not apply.

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2. Identify which of the following pairs contain like terms or unlike terms.

$3xy,\ -8yx$

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3. Identify which of the following pairs contain like terms or unlike terms.

$-x^2y, 5xy^2$

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4. Identify which of the following pairs contain like terms or unlike terms.

$5ab, 5ac$

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5. Identify which of the following pairs contain like terms or unlike terms.

x^2, y^2

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6. Identify which of the following pairs contain like terms or unlike terms.

$4ab^2c, \ -cab^2$

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7. Identify which of the following pairs contain like terms or unlike terms.

$3a^2b^2c^2, 3ab^2c^2$

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8. Identify which of the following pairs contain like terms or unlike terms.

$7ab, \ -11ba$

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9. Identify which of the following pairs contain like terms or unlike terms.

$11xy^2, \ -11yx^2$

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10. Identify which of the following pairs contain like terms or unlike terms.

$2xy,\ 2xz$

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11. Identify which of the following pairs contain like terms or unlike terms.

$a^3,\ b^3$

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12. Identify which of the following pairs contain like terms or unlike terms.

$6x^2yz,\ -3zyx^2$

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13. Identify which of the following pairs contain like terms or unlike terms.

$5xy^2z^2, 5x^2y^2z$

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14. Find the degree of the following polynomials

$3a^2bc$

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15. Find the degree of the following polynomials

23

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16. Find the degree of the following polynomials

44a

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17. Find the degree of the following polynomials

$3xyz^4 + 2x^2y^2 + 4y^3z^2$

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18. Find the degree of the given polynomial

$3abc^3xy - 9ab^2xy^2 + a^2b^3$

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19. Find the degree of the following polynomials

$\frac{2}{3}xyz^3 + \frac{3}{5}x^2y^2z^2 + \frac{1}{2}x^3y - y^4z$

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20. Find the degree of the following polynomials

$a^2b^2c^2 + a^5 + 4a^3b$

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21. Find the degree of the following polynomials

$5p^4 - 7q^2pr - 6p^2q$

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Exercise 6 2

1. Add the algebraic expressions.

$3ab + 6bc - 4ca \text{ and } 2ab - 2bc + 3ca$

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2. Add the algebraic expressions.

$5ab^2 - 5bc + 8ca$ and $3ab^2 + 6bc - 4ca$

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3. Add the following

$5a + 2a^2 - 3a^3 + 8,\ -4a^2 + 5a^3 - 9,\ -2a + 6a^2 - 3a^3,\ -a + 4a^2 - 9,$

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4. Add the following

$-2a + 5a^2 - a^3 + 2,\ -5a^2 - 2a^3 + 4, a - a^2 + 3a^3,\ -2a - 3a^2 - 4, 6 -$

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5. Subtract:

$2x^2 - 5xy + 3y^2 + 5$ from $4x^2 + 3xy - 5y^2 + 9$

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6. Subtract:

$5a^2 + 7ab - 2b^2 + 4$ from $7a^2 - ab + 2b^2$

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7. How much does $3x^2 - 14xy + 8y^2$ exceed $x^2 + 3xy + 4y^2 - 2xy^2$

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8. What should be subtracted from $4a^3 + 2a^2b - 4ab^2$ to get $2a^3 + 3a^2b$

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9. What should be added to $-3a^2b^2c^2 + 2abc^2 + 18$ to get $7a^2b^2c^2 + 11abc^2 - 7$

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10. From the sum of $4xy + 3yz - 3xyz + 1$ and $xy - 2yz + xyz + 4$ subtract $3xy + 2yz + 5xyz - 4$

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11. Subtract $2x^2 - 3xy$ from the sum of $x^2 - 3y^2 + 11xy$ and $y^2 - 4x^2 + 9xy$

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12. From the sum of $3x + 2x^2 - y^2$ and $6y - 5y^2 + 3x^2 + 4x$, subtract the sum of $x^2 - 2y^2 + 3x - 5y$ and $3x^2 + 2y^2 - 4x - y$

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13. Write the given statement as an algebraic statement and then simplify

Five times the sum of $3x - [2y - 2(1 - 4x)]$ and $3y - 4(3 - 5x)$ is added to $5x + 2(3 - y)$''

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14. Simplify the following

$4x - [3x - (1 - 5x) - 6[8 - 3(2x + 7)]]$

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15. Simplify the following

$9x - [8 - (3 - 7x) - 3[5x - 3(4 - 2x)\}]$

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16. Find the value of :

$x^3 + y^3 + 3xyz$ given that $x = -1, y = 2$ and $z = 3$

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17. Find the value of :

$3abc - 2a^2 + 4b^3 + ac$ given that $a = -2, b = 3$ and $c = -1$

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18. Find the value of :

$5a^2 - 3a + 4$ for $a = 3$

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19. Find the value of :

$6a^2b - 5ab^2 + 10ab - 7$ given that $a = 1$ and $b = 2$

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20. Simplify and find the value of the simplified expression when x=-1 and y=2.

$3\left(2x^2-4y^2\right)-\left[7xy-\left[3\left(x^3-2y^2\right)-2xy\right)\right]$

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21. Simplify and find the value of the simplified expression when x=-1 and y=2.

$4\left(x^2+3y^2\right)-\left(9xy-\left[5\left(2x^3-3y^2\right)+xy\right)\right]$

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Revision Exercise

1. Identify the numerical coefficients of terms other than the constant terms and also the coefficient of x in terms containing x.

$4xy^2 + y^2z + 11xyz - 19x + 8xy + 2$

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2. State whether the given pairs of terms are like or unlike.

$4xy^2, 789y^2x$

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3. State whether the given pairs of terms are like or unlike.

$1, 10$

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4. State whether the given pairs of terms are like or unlike.

$-25xy, \ -25yz$

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5. State whether the given pairs of terms are like or unlike.

$xyz, 8765zxy$

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6. State whether the given pairs of terms are like or unlike.

$55ab^2, 55ba^2$

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7. Classify an monomial, bionomial and trinomial

5

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8. Classify an monomial, bionomial and trinomial

$65 - a$

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9. Classify an monomial, bionomial and trinomial

$a^2 + b - 3b$

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10. Classify an monomial, bionomial and trinomial

$p + q + r - 5p$

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11. Classify an monomial, bionomial and trinomial

$6r - 2r$

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12. Find the degrees of the following polynomials

$7p^2qr + 2pq^2 + 3qr^2 + 4rp^2$

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13. Find the degrees of the following polynomials

$3x - 4y - 8z + 9$

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14. Find the degrees of the following polynomials

-44

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15. Find the degrees of the following polynomials

$15a^2b^2 - a^5 + b^4 - a^4b + 18$

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16. Find the value of the expression:

$a^2 - ab - 2a + 5b$ when a=2 and b=-3

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17. Find the sum of

$2x^2 + y^2 + xy, y^2 - 3z^2 + yx,$ and $z^2 + x^2 + zx + xyz - 8$

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18. Add the following

$3a + 6a^2b + 4b, 2b - 9ab^2 - 6a, -6a - 7b + 2a^2b$

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19. Add the following

$2x - 3y + 2x^2y, x - 2y - 2xy^2, x - y + 3x^2y$

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20. What should be subtracted from $a^2 + b^2 + c^2 - ab - bc - 9$ to get $ab + bc + ca + abc + 9$

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21. Subtract the sum of $x^2 + 2x + 2$ and $xy^2 + 3$ from the sum of $2x^2 + 5x - 1$ and $y^2 + x^2y - 3$

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22. What must be added to $9a^3 + 8a^2 - 7a + 15$ to obtain $7a^3 - 9a^2 + 11a - 6$

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23. What must be added to $3a^3 - 9a^2 + a + 8$ to obtain $4a^3 - 3a^2 + 7a - 2$?

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24. Find the value of $z^3 - 3(z - 10)$ for $z = 10$

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25. Find the value of a if the value of $2x^2 + 3x - a$ is equal to 6 when x=-2.

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26. From the sum of $4abc + 3ab - bc + 4$ and $3abc - ab + 2bc - 2$ subtract $2abc + ab - 3bc + 8$

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27. Complete the following table:

Algebraic Expression	Number of Terms	Term 1	Term 2	Term 3	Term 4
$-xy(x^2) + (yz)(y) - 2(yz)(z) + 5xz$					
$12x^2y^2z^2 + (2xy)(-2yz)(2zx) - 4(x^2y)(yz^2)$					
$3a(-a) + (2b)b - 3c(-2c)$					

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28. Subtract $x^2 - 3y^2 - 6xy$ from the sum of $3x^2 - y^2 + 8xy$ and $5y^2 - 3x^2 + 3xy$

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29. From the sum of $5x - 3x^2 + y^2$ and $8x - 3y^2 - x^2 + x$ subtract the sum of $2x^2 + y^2 + 4x - 2y$ and $x^2 + y^2 - 3x - 2y$

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30. Fill in the blanks:

$2x^2y + 3x(4y) - 2y(12x) + 8 = 2x^2y -$ _____+8

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31. Fill in the blanks:

$4abc + 2a^2bc - 3b^2c - c^2 + 5 = abc - c^2 + 5 -$ _____

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32. Fill in the blanks:

$3xy^2 + 4xy - 2x^2y + 9 = 3xy^2 + 9 -$ _____

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33. Fill in the blanks:

$2abc^2 + 3ab^2c - 4ab + 3bc - 2ca - 2 = 2abc^2 + 3bc - 2ca - 2 -$

_____

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34. Write the given statement as an algebraic statement and then simplify

Five times the sum of $8y - [3x - 4(2 - 3y)]$ and $2x - 2(5 + 2y)$ is added to $2x - (8 - y)$''

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35. Simplify and find the value of the simplified expression when x=-1 and y=2.

$3(2x^2 - 4y^2) - [7xy - [3(x^3 - 2y^2) - 2xy)]$

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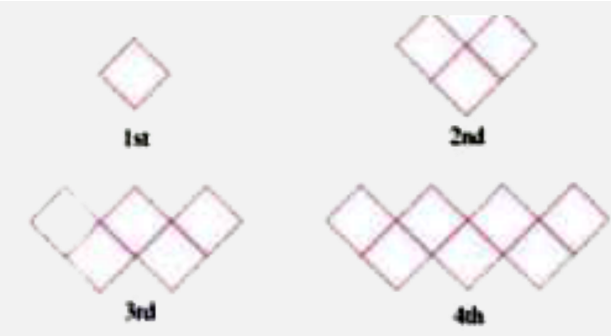
36. Write the general algebraic expression for the pattern as given. Also find the number of line segment required for 12th of the given pattern.



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37. How much does $5x^2 - 8xy - 6y^2$ exceed $3x^2 - 4xy + 2y^2 - xy^2$?

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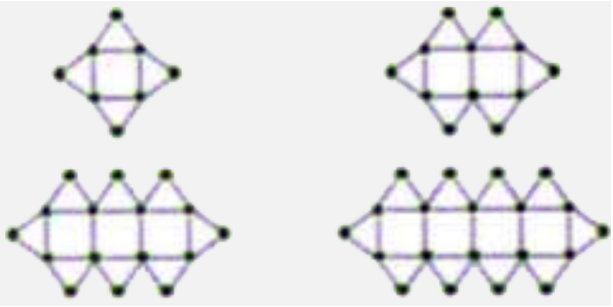
38. Form the algebraic expression to give the number of line segments required to make the given pattern. Also, find the number of line

segments required to make 14th pattern of the series.



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Try This

1. For the given algebraic expression $6a^2b^2c + 5a^2bc^2 - 4abc$ complete the given table filling in the required coefficients.

Term	Coefficient of b	Coefficient of c	Coefficient of a^2	Coefficient of bc
a. $6a^2b^2c$				
b. $5a^2bc^2$				
c. $-4abc$				

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2. For the algebraic expression $2y^2 - xy^2 + 7xy - x - y + 22$ find the numerical coefficient of all terms which are not a constant. Also, find the coefficient of y^2 and the coefficient of x for terms involving y^2 and x respectively.

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3. Identify the like terms,

$10pq, 7p, -p^2q^2, -7pq, -100q, -23, -12q^2p^2, -5p^2, 4l, 2405p, 78qp, 1$

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4. Classify into monomials, binomials and trinomials.

$4x - 5$

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5. Classify into monomials, binomials and trinomials.

$3q - 2p$

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6. Classify into monomials, binomials and trinomials.

$abc - ab - bc$

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7. Classify into monomials, binomials and trinomials.

$x^2 + y^2 - 3x^2$

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8. Classify into monomials, binomials and trinomials.

$a + x + 3 + 2$

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9. Give one example in each of the following

constant

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10. Give one example in each of the following

Linear polynomial

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11. Give one example in each of the following

Quadratic polynomial

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12. Give one example in each of the following

Cubic polynomial

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13. Give one example in each of the following

Biquadratic polynomial

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14. Find the degrees of the following polynomials

$5b^3 + 2ab^2 - 4ab + 3$

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15. Find the degrees of the following polynomials

$3abc + 7$

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16. Find the degrees of the following polynomials

$-xz^3 + 7x^3 - 5y^3 + 3z^3 + 1$

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17. Simplify : $7x - [2 - 3(1 - 3x)]$

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18. Add

$a^2b + 2ab - 7$ and $2a^2b - ab + 2$

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19. Add

$2pqr^2 - p^2q + pq$ and $3p^2q - ab + 2$

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20. Subtract : $x^2 + 2xy^2 - 6$ from $4x^2 + xy^2 - 8$

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21. What should be added to $2xy + 3yz + 4zx + 5xyz$ to get $x + y + z + 2xy + 3yz + zx - xyz$?

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22. What should be subtracted from $2a^2 - b^2 + 3ab$ to get $a^2 + b^2 + 3ab^2 - 6$

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23. Subtract the sum of $\left(x^2 - 2y^2 + xy\right)$ and $\left(y^2 + z^2 + xyz\right)$ from the sum of $\left(z^2 - 2zx - xyz\right)$ and $\left(x^2 + xy\right)$

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24. Find the value of $3\left(x^2 - 2\right) + 4x - 8$ when x=-2

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25. Find the value of $2p^2q - 3pq^2 + 2p - 3p + 1$ when p=3,q=-3

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26. From an algebraic expression to give the number of line segments required to make the following pattern and hence find the number of line

segments required for 10 houses.

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