1. Write an algebraic expression using letter-numbers of your choice
   a) 28 more than a number
   b) 4 less than 2 times a number
   c) The sum of a number and 25
   d) 3 more than 7 times of a number
2. One plate of dosa costs ₹50, and one plate of idli costs is ₹30. If x plate of dosa and y plate of idli are ordered, what is the expression represent the total amount earned in rupees
3. For a matchstick pattern, the number of matchsticks in step y is given by $4y + 1$. How many matchsticks are needed for step 5
4. In a quiz, Meera's score in one round is $5p - 3q$, where p is the points for a correct answer and q is the penalty. If $p = 6$ and $q = 1$, what is her score?
5. The perimeter of a regular decagon is 10 times the side length. Write the expression of the perimeter if the side length is q cm, and find the perimeter when $q = 6cm$
6. Simplify the expressions:
   a) $2(x+ y) + 3y - 3$
   b) $5(a+ b) - 4b$
   c) $4x - (2x - 3)$
   d) $5a + 3b - 2a + b$
   e) $4(p + q - r) - 3q$
   f) $9m - (4m - 3) + 2$
7. Find the value of the following expressions
   a) $2x - 5$ when $x = 0$
   b) $2(5a + 2b) - 3b$ when $a = 2$ and $b = 1$
   c) $4p + 5q + 3r - 2pqr$ when $p = 1$, $q= 0$ and $r =2$
8. Simplify the expression $4x + 5 - 3x +1 +2x - 3$ and find the value when $x = 2$
9. Riya has notes of ₹100, ₹20 and ₹10. She has x notes of ₹100, $(x - 5)$ notes of ₹20 and $(x+ 1)$ notes of ₹10.

a) What will be the algebraic expression describing the total amount that she has?

b) Simplify that expression

c) If she has 5 notes of ₹100, then how much total amount does she has?

10. Add the expressions given below:

a) 3m − 5n + 6 and 8m + 4n-10

b) 7a + 2b − 7 and-3a + 8b + 4

c) 13a + 5b − 8 and − 9a + 2b + 6

d) 2f − 8g − 3h and 4(3f +g) +5h

e) 20x + 7y − 28and 4x + 12y − 20

11. Subtract the expressions given below:

a)9x + 4 + 11y from 4y+ 7 −2x

b) 7g − 12 +3h from 6g − 5h + 10

c) 2a + 3b + 4c + 5 from 8a − 6b + c + 5

d) 18a − 12b + 20 from 16a − (8b + 12)

12. Look at the picture given below. It is the pattern using bold lines. Can you identify the pattern?

1   2   3

a) Can you write an algebraic expression representing this pattern

b) How many lines will be used in step 10

13. In a grocery shop, the price of a packet of biscuits and cookies is ₹45 and ₹60 respectively

a) Write an algebraic expression to find the total amount to be paid for a given number of packets of biscuits and cookies

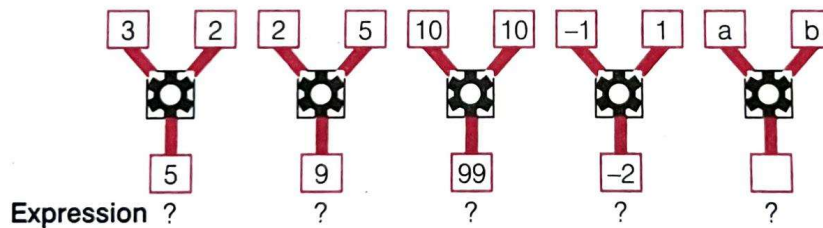b) Using this expression, find the total amount to be paid for 7 packets of biscuits and 4 packets of cookies.

14. A shop rents out chairs and tables for a day's use. The rental charges per item are the following.

Item	Amount
Chair	₹ 44
Table	₹67

When the furniture is returned by the customer, the shopkeeper pays back some amount as follows:

Item	Amount
Chair	₹ 5
Table	₹9

a) Write an expression for the total number of rupees paid if x chairs and y tables are rented.

b) Find the total amount paid at the beginning and amount the customer gets back after returning the furniture.

15. Find the pattern of the number machines below and write the expression

| 3 | 2 | 2 | 5 | 10 | 10 | −1 | 1 | a | b |

| 5 | 9 | 99 | −2 | |

Expression ? ? ? ? ?

Answers:

1. a) x + 28   b) 2a − 4   c) x + 25   d) 7y + 3
2. 50x + 30y
3. 21
4. 27
5. 10q cm, 60cm
6. a) 2x + 5y − 3   b) 5a + b   c) 2x + 3   d) 3a + 4b
       e) 4p + q − 4r   f) 5m + 5
7. a)-5   b) 21   c) 10
8. 3x + 3, 9
9. a) 100x + 20 (x − 5) + 10 (x + 1)   b) 130x − 90   c) ₹560
10. a) 11m − n − 4   b) 4a + 10b − 3   c) 4a + 7b − 2
        d) 14f − 4g + 2h   e) 24x + 19y − 48
11. a)-7y + 3 − 11x   b)-g − 8h + 22   c) 6a − 9b − 3c
        d)-2a + 4b − 32
12. a) yes, 2k + 2, k = 1,2, 3,…….   b) 22
13. a) 45x + 60y   b) ₹555
14. a) ₹(39x + 56y)   b) ₹(44x + 67y), ₹(5x+9y)
15. (a × b) − 1

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