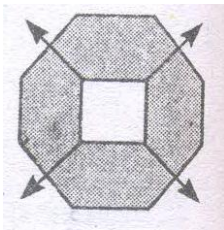


Class: 6
Subject: Mathematics
Topic: Algebra
No. of Questions: 20

- Q1. The teacher distributes 5 pencils per student. Can you tell how many pencils are needed, given the number of students? (Use s for the number of students.)
- Q2. Radha is drawing powder a dot Rangoli (a beautiful pattern of lines joining dots with chalk powder as in (Fig.)). She has 8 dots in a row. How many dots will her Rangoli have for r rows? How many dots are there if there are 8 rows? If there are 10 rows?



- Q3. Oranges are to be transferred from larger boxes into smaller boxes. When a large box is emptied, the oranges from it fill two smaller boxes and still 10 oranges remain outside. If the number of oranges in a small box are taken to be x , what is the number of oranges in the larger box?
- Q4. The diameter of a circle is a line, which joins two points on the circle and also passes through the center of the circle. (In the adjoining figure, AB is a diameter of the circle; C is its center.) Express the diameter of the circle (d) in terms of its radius(r).
- Q5. Write the following using numbers literals and signs of basic operations:
- 3 more than a number
 - y less than 6
 - One third of a sum of x and y
 - 5 less than the quotient of x by y
 - Quotient of x by y added to the product of x and y
 - 7 taken away from the sum of x and y .
- Q6. Give expressions in the following cases:

- (a) 11 added to $2m$.
(b) 11 subtracted from $2m$.
(c) 5 times y to which 3 is added.
(d) 5 times y from which 3 is subtracted.
(e) Y is multiplied by -8
(f) Y is multiplied by -8 and then 5 is added to the result.
(g) Y is multiplied by 5 and the result is subtracted from 16.
(h) Y is multiplied by -5 and the result is added to 16.
- Q7. In a factory, the number of female workers is three times the male workers. If the total number of workers are 48. Find the number of male and female workers.
- Q8. The perimeter of the courtyard of a rectangular field is 300 metres. If the length of field is twice the breadth. Find the length and breadth of the field?
- Q9. Answer the following:
(a) Take Sarita's present age to be y years
(i) What will be her age 5 years from now?
(ii) What was her age 3 years back?
(iii) Sarita's grandfather's age is 6 times her age. What is grandfather's age?
(iv) Grandmother is 2 years younger than grandfather. What is grandmother's age?
(v) Sarita's father's age is 5 years more than 3 times Sarita's age. What is her father's age?
(b) The length of a rectangular hall is 4 meters less than 3 times the breadth of the hall. What is the length, if the breadth is b meters?
(c) A rectangular box has height h cm. Its length is 5 times the height and breadth is 10 cm less than the length. Express the length and the breadth of the box in terms of the height.
(d) Meena, Beena and Leena are climbing the steps to the hill top. Meena is at step s , Beena is 8 steps ahead and Leena is 7 steps behind the meena. the hill top is 10 less than 4 times what Meena has reached. Express the total number of steps using s .
(e) A bus travels at v km per hour. It is going from Daspur to Beespur. After the bus has travelled 5 hours, Beespur is still 20 km away. What is the distance from Daspur to Beespur? Express it using v .
- Q10. (a) Given, Munnu's age to be x years, Can you guess what $(x - 2)$ may show? (Hint; Think of Mannu's younger brother.) Can you guess what $(x + 4)$ may show? What $(3x + 7)$ may show?
(b) Given Sara's age today to be y years. Think of her age in the future or in the past. What will the following expression indicate?
 $Y + 7, y - 3, y + \frac{1}{2}, y - 2\frac{1}{2}$.

(c) Given, n students in the class like football, what may $2n$ show? What may $\frac{n}{2}$ show? (Hint: Think of games other than football)

Q11. Solve the equation and check the answer:

(i) $2y + 5 = 8$

(ii) $y - \frac{1}{2} = 3$

(iii) $17u = 255$

Q12. (a) Complete the table and by inspection of the table find the solution to the equation $m + 10 = 16$

m	1	2	3	4	5	6	7	8	9	10	-	-	-
m + 10	-	-	-	-	-	-	-	-	-	-	-	-	-

(b) Complete the table and find using the table the solution of the equation $z/3 = 4$

Z	8	9	10	11	12	13	14	15	16	-	-	-
$\frac{z}{3}$	$2\frac{2}{3}$	3	$3\frac{1}{3}$	-	-	-	-	-	-	-	-	-

Q13. Solve the following riddles, you may yourself construct such riddles.

Who am I?

- (i) Go round a square
 Counting every corner
 Thrice and no more!
 Add the count to me
 To get exactly thirty week
- (ii) Tell me who I am
 I shall give a pretty clue!
 You will get me back
 If you take me out twenty two!

Q14. Solve:

(i) $\frac{q}{2} = 5$

(ii) $t + 100 = 125$

(iii) $13y = 65$

- Q15. One-fourth of a number exceeds one fifth of the succeeding number by 3. Find the number.
- Q16. Astha is 3 years older than Utkarsh. If the sum of their ages is 11 years, find their ages.
- Q17. Vishal's father is three times as old as Vishal. If the sum of their ages is 56 years, find their ages.
- Q18. If there are 50 mangoes in a box, how will you write the total number of mangoes in terms of the number of boxes? (Use b for the number of boxes.)
- Q19. Mother has made laddus. She gives some laddus to guests and family members; still 5 laddus remain. If the number of laddus mother gave away is l , how many laddus did she make?
- Q20. There are 1260 students in a school. If the number of girls is 52 more than that of the boys. Find the number of boys and girls in a school.