

NCERT SOLUTIONS

CLASS-VI MATHS

CHAPTER-11

ALGEBRA

Exercise 11.1

Question 1

Let the side of an equilateral triangle be m . Show the perimeter of the triangle with the help of m .

Answer

Perimeter = sum of three sides

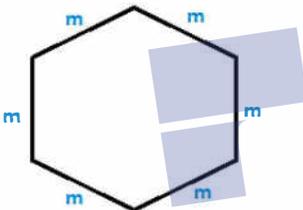
$$= m+m+m$$

$$= 3m$$

Question 2

Let the side of a regular hexagon be denoted by m . Show the perimeter of the hexagon with the help of m .

(All sides are equal in regular hexagon)



Answer

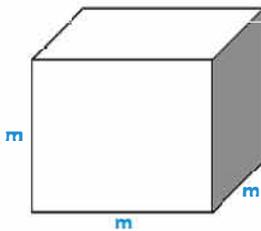
Side of regular hexagon = m

Perimeter = sum of all sides

$$= 6m$$

Question 3

In the given figure a cube, 3-D cube is shown. It has six identical squares as all the sides are equal so same six faces. Let the length of a side of cube be given by m . Find formula for total length of the cube.



Answer

Length of an edge = m

Number of edges = 12

Total length of the edges = total number of edges \times Length of each edge

= 12m

Question 4

Diameter of a circle is a line which passes through the centre and joins two points of circle. (In the given figure XY is a diameter of circle; c is centre.)

Express the diameter of the circle (d) in form of its radius(r).



Answer

d = twice the radius

= $2r$

Exercise 11.2

Question 1

Make as many expressions with no. as you can from three numbers 2, 6 and 9. Each no. should be used only once. Use only addition, multiplication and subtraction.

Answer

We can make many expressions using 2, 6 and 9 as given below.

$$9 + (6 - 2)$$

$$9 + (6 \times 2)$$

$$(6 - 2) + 9$$

$$(6 + 2) \times 9$$

$$(2 + 9) - 6$$

$$(2 \times 9) \times 6$$

Question 2

Which of these expressions are formed with numbers only?

1. $y + 6$

2. $(8 \times 10) - 6p$

3. $9(15 - 7) + 6 \times 4$

4. $9n$

5. 11

6. $7 - 7m$

7. $(2 \times 40) - (4 \times 20) - 25 + q$

Answer

From above expressions given, it can be observed that option (c) and (e) are formed by using numbers only.

Question 3

Identify the operations and tell how the expressions have been formed.

1. $a + 2$, $a - 2$, $b + 13$, $b - 13$
2. $7t$, $t/7$, $15t$
3. $4x + 13$, $4x - 13$
4. $8c$, $-8c + 2$, $-8m - 2$

Answer

1. Addition: 2 is added to a

Subtraction: 2 is subtracted from a

Addition: 13 is added to b

Subtraction: 13 is subtracted from b

2. Multiplication: t is multiplied with 7

Division: t is divided by 7

Multiplication: t is multiplied with 15

3. Multiplication and addition: 4 is multiplied with x and result is added to 13.

Multiplication and subtraction: 4 is multiplied with x and 13 is subtracted from the result.

4. Multiplication: 8 is multiplied with c

Multiplication and addition: -8 is multiplied by c and add 2 to the result.

Multiplication and subtraction: c is multiplied with -8 and 2 is subtracted from the result.

Question 4

Give expressions for the below:

1. 3 added to m
2. 3 subtracted from m
3. m multiplied by 8
4. n divided by 8
5. 9 subtracted from $-n$
6. $-m$ multiplied by 6
7. $-n$ divided by 6
8. n multiplied by -9

Answer

1. $m + 3$
2. $m - 3$
3. $8m$
4. $n/8$
5. $-n - 9$
6. $-6m$
7. $-n/6$

Question 5

Give expressions for the following cases

1. 15 added to $3p$
2. 15 subtracted from $3p$
3. 7 times x to which 6 is added
4. 7 times x from which 6 is subtracted
5. z is multiplied by -9
6. z is multiplied by -5 and then 3 is added to the result
7. q is multiplied by 8 and the result is subtracted from 12
8. q is multiplied by -8 and the result is added to 12

Answer

1. $3p + 15$
2. $3p - 15$
3. $7x + 6$
4. $7x - 6$
5. $-9z$
6. $-5z + 3$
7. $12 - 8q$
8. $-8q + 12$

Question 6

(a) Form expressions with s and 5. Use only one operation in the expressions. Every expression should have s in it.

(b) Form expressions with t , 3 and 8. Every expression should have t . Use only two operations. These two operations should be different.

Answer

(a) $s + 5$

$s - 5$

$5s$

$\frac{s}{5}$ $\frac{5}{s}$

$5 - s$

(b) $3t + 8$

$3t - 8$

$8t + 3$

$8t - 3$ etc..