CHAPTER – 11

Algebra

EXERCISE – 11.3

Q. 1

Make up as many expressions with numbers (no variables) as you can from three numbers 5, 7 and 8. Every number should be used not more than once. Use only addition, subtraction and multiplication.

Answer:

In this question,

Most of the expressions can be formed by using the numbers 5, 7 and 8

Some of the examples of these expressions are as follows:

$5 \times (8 - 7)$

$5 \times (8 + 7)$

$(8 + 5) \times 7$

$(8 - 5) \times 7$

$(7 + 5) \times 8$

$(7 - 5) \times 8$

Q. 2

Which out of the following are expressions with numbers only?

(a) $y + 3$
(b) $(7×20) - 8z$
(c) $5(21\text{-}7)+7×2$
(d) 5 (e) $3x$
(f) $5 - 5n$
(g) $(7×20) - (5×10) - 45 + p$

Answer:

from the given parts it is clear that:

(a), (b), (e), (f) and (g) are the expressions which have both letters and numbers

Whereas,

(c) and (d) are those expressions which are formed by using numbers only

Q. 3

Identify the operations (addition, substraction, division, multiplication) in forming the following expressions and tell how the expressions have been formed:

(a) $z + 1, z - 1, y + 17, y - 17$

(b) $17y, \frac{y}{17}, 5z$

(c) $2y + 17, 2y - 17$

(d) $7m, -7m + 3, -7m - 3$

Answer:

(a) From the above given expression it is clear that:

Firstly,

Addition, as 1 is added to z

Then,

Subtraction, as 1 is subtracted from z

Then,

Addition, as 17 is added to y

At last,

Subtraction, as 17 is subtracted from y

(b) From the above-given expression, it is clear that:

Firstly,

Multiplication, as y is multiplied with 17

Then,

Division, as y is divided by 17

Then,

Multiplication as z is multiplied with 5

(c) From the above-given expression, it is clear that:

Firstly,

There is multiplication and addition as:

y is multiplied with 2 and 17 is added to the result

Then,

There are multiplication and subtraction as:

y is multiplied with 2 and 17 is subtracted from the result

(d) From the above-given expression, it is clear that:

Firstly,

Multiplication, as m is multiplied with 7

Then,

There are multiplication and addition as m is multiplied with -7 and 3 is added to the result

At last,

There are multiplication and subtraction as:

m is multiplied with -7 and 3 is subtracted from the result

Q. 4

Give expressions for the following cases:

(a) 7 added to p

(b) 7 subtracted from p

(c) *p* multiplied by 7

(d) *p* divided by 7

(e) 7 subtracted from *–m*

(f) *-p* multiplied by 5

(g) *-p* divided by 5

(h) *p* multiplied by -5

Answer:

(a) The expression for the above given case is as follows:

p + 7

(b) The expression for the above given case is as follows:

p - 7

(c) The expression for the above given case is as follows:

$7 \times p = 7p$

(d) The expression for the above given case is as follows:

$$\frac{P}{7}$$

(e) The expression for the above given case is as follows:

- m - 7

(f) The expression for the above given case is as follows:

- 5p

(g) The expression for the above given case is as follows:

$$-\frac{P}{5}$$

(h) The expression for the above given case is as follows:

- 5p

Q. 5

Give expressions in the following cases:

(a) 11 added to $2m$
(b) 11 stbtracted 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

Answer:

(a) The expression for the above given case is as follows:

2m + 11

(b) The expression for the above given case is as follows:

2m − 11

(c) The expression for the above given case is as follows:

5y + 3

(d) The expression for the above given case is as follows:

5y – 3

(e) The expression for the above given case is as follows:

- 8y

(f) The expression for the above given case is as follows:

- 8y + 5

(g) The expression for the above given case is as follows:

16 – 5y

(h) The expression for the above given case is as follows:

- 5y + 16

Q. 6 A

Form expressions using t and 4.

Use not more than one number operation.
Every expression must have t in it.

Answer:

The expressions for the above given case by using t and 4 is as follows:

t + 4

t – 4

4t

$= \dfrac{t}{4}$

$= \dfrac{4}{t}$

$4 - t$

$4 + t$

Q. 6 B

Form expressions using y, 2 and 7. Every expression must have y in it. Use only two number operations. These should be different.

Answer:

The expressions for the above-given case by using y, 2 and 7 is as follows:

$2y + 7$, $2y - 7$, $7y + 2$…...