

Board -CBSE

Class - 6th

Topic - Algebra Ex: 11.3

Exercise 11.3

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, subtractions, and multiplication.

Ans. Given numbers are 5, 7, and 8.

Expressions are:

- | | | | |
|-------------------------|-------------------------|--------------------------|----------------------|
| (i) $8 + (5 + 7)$ | (ii) $5 + (8 - 7)$ | (iii) $8 + (5 \times 7)$ | (iv) $7 - (8 - 5)$ |
| (v) $7 \times (8 + 5)$ | (vi) $5 \times (8 + 7)$ | (vii) $8 \times (5 + 7)$ | (viii) $7 + (8 - 5)$ |
| (ix) $(5 \times 7) - 8$ | (x) $7 + (8 \times 5)$ | | |

2. Which out of the following are expressions with numbers only?

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

Ans. (a) $y + 3$. This expression has the variable 'y'.

(b) $(7 \times 20) - 8z$. This expression has a variable 'z'.

(c) $5(21 - 7) + 7 \times 2$. This expression has no variable. So it only contains numbers.

(d) 5. This expression only has numbers..

(e) $3x$. This expression has a variable 'x'.

(f) $5 - 5n$. This expression has a variable 'n'.

(g) $(7 \times 20) - (5 \times 10) - 45 + p$. This expression has a variable 'p'.

3. Identify the operations (addition, subtraction, division, and multiplication) in forming the following expressions and tell how the expressions have been formed.

- | | |
|------------------------------------|----------------------------|
| (a) $z + 1, z - 1, y + 17, y - 17$ | (b) $17y, 5z$ |
| (c) $2y + 17, 2y - 17$ | (d) $7m, -7m + 3, -7m - 3$ |

Ans.

Expressions		Operations used	Formation of expression
(a)	(i) $z + 1$	Addition	z is increased by 1
	(ii) $z - 1$	Subtraction	z is decreased by 1
	(iii) $y + 17$	Addition	y is increased by 17
	(iv) $y - 17$	Subtraction	y is decreased by 17
(b)	(i) $17y$	Multiplication	y is multiplied by 17

	(ii)	$y/17$	Division	y is Divided by 17
	(iii)	$5z$	Multiplication	z is Multiplied by 5
(c)	(i)	$2y + 17$	Multiplication and addition	y is multiplied by 2 and then 17 is added.
	(ii)	$2y - 17$	Multiplication and subtraction	Twice of y is decreased by 17
(d)	(i)	$7m$	Multiplication	m is multiplied by 7
	(ii)-	$-7m + 3$	Multiplication and addition	m is multiplied by -7 and then increased by 3
	(iii)	$-7m - 3$	Multiplication and subtraction	M is multiplied by -7 and then decreased by 3

4. Give expressions for the follow

- | | |
|--------------------------|-------------------------|
| (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 | (j) -p multiplied by 5 |
| (g) -p divided by 5 | (h) p multiplied by -5 |

- Ans.** (a) $p + 7$ (b) $p - 7$ (c) $7p$ (d) $\frac{p}{7}$
- (e) $-m - 7$ (f) $-5p$ (g) $\frac{-p}{7}$ (h) $5p$

5. Give expressions in the following cases:

- 11 added to $2m$
- 11 subtracted from $2m$
- 5 times y to which 3 is added
- 5 times y from which 3 is subtracted
- y is multiplied by -8
- y is multiplied by -8 and then 5 is added to the result
- y is multiplied by 5 and the result is subtracted from 16
- y is multiplied by -5 and the result is added to 16.

- Ans.** (a) $2m + 11$ (b) $2m - 11$ (e) $5y + 3$
- (d) $5y - 3$ (e) $-8y$ (f) $-8y + 5$
- (g) $16 - 5y$ (h) $-5y + 16$

6. (a) Form expressions using t and 4. Use not more than one number operation.

Every expression must have t in it.

(b) Form expressions using y , 2, and 7. Every expression must have y in it.

Use only two number operations. These should be different.

Ans. (a) The possible expressions are:

(i) $t + 4$

(ii) $t - 4$

(iii) $4t$

(iv) $\frac{t}{4}$

(v) $4 + t$

(vi) $4 + t$, etc.

(b) The possible expressions are:

(i) $2y + 7$

(ii) $7y - 2$

(iii) $7 - 2y$

(iv) $7y + 2$

(v) $\frac{7y}{2}$

(vi) $\frac{2y}{7}$

(vii) $\frac{y}{7} + 2$

(viii) $\frac{y}{2} - 7$, etc