

DELHI PUBLIC SCHOOL JAMMU
Session- (2021-22)
FOUNDATION WORKSHEET

Class: IX
Sub: Mathematics

NAME OF THE STUDENT:

Meena:- Raju, can you tell me how much is $20 + 15$?

Raju:- Certainly Meena, $20 + 15$ is equal to 35.

Meena:- Very good Raju. Now can you tell me how much is $3\sqrt{2} + 5\sqrt{2}$?

Raju:- Meena if I am not wrong, these numbers are irrational numbers.
I am finding this addition quite difficult.

Meena:- Don't get scared Raju, it is very simple. Just answer my questions,
tell me how many triangles $\frac{1}{4}$ $\frac{1}{2}$ do we get if we solve $3\Delta + \Delta 5$?

Raju:- $3\Delta + \Delta 5$ together becomes 8Δ .

Meena:- Very good Raju, now tell me how many stars (*) do we get if we
solve $11^* + 20^*$.

Raju:- It will make 31^* (31 stars), am I right?

Meena:- Right, similarly in $3\sqrt{2} + 5\sqrt{2}$ take triangle in place of $\sqrt{2}$, now can you
tell me the answer?

Raju:- $8\sqrt{2}$ and just like this $11\sqrt{3} + 20\sqrt{3}$ will be $31\sqrt{3}$. Am I right Meena?

Meena:- Wasn't it easy? Now tell me what will you get if you solve $3 + 6$.

Raju:- These are different, we cannot add stars in triangles.

Meena:- Absolutely right Raju, the same way $3\sqrt{2} + 5\sqrt{3}$ are kept separate and
can not be added.



Children, You might have seen that adding irrational numbers was not so difficult.
Subtraction of irrational numbers is also done in the same way. For example:

$$10\sqrt{2} - 6\sqrt{2} = 4\sqrt{2}$$

$$15\sqrt{7} - 3\sqrt{7} = 12\sqrt{7}$$

Two terms having same irrational multiples (i.e. like terms) can be added or subtracted.

Children, now you can try to solve the following:

(i) $25\sqrt{2} + 6\sqrt{2}$

(ii) $8\sqrt{5} - 2\sqrt{5}$

(iii) $9\sqrt{3} + 3\sqrt{3}$

(iv) $12\sqrt{6} - 18\sqrt{6}$

(v) $17\sqrt{11} + 3\sqrt{11}$

(vi) $7\sqrt{3} - 6\sqrt{3}$

Note: Watch the following videos for more information –

1. https://diksha.gov.in/play/content/do_312990854760513536129
2. https://diksha.gov.in/play/content/do_312990854856925184131
3. https://diksha.gov.in/play/content/do_312990854949855232132