Grade: X

Subject: Mathematics

Topic: Surds

Worksheet # 5

I. Multiply:

1. $\sqrt{a}+\sqrt{b}$ by $\sqrt{ab}$
2. $\sqrt{a}+\sqrt{b}$ by $\sqrt{a}-\sqrt{b}$
3. $3\sqrt{a}-5$ by $2\sqrt{a}$
4. $4\sqrt{x}+3\sqrt{y}$ by $4\sqrt{x}-3\sqrt{y}$
5. $2\sqrt{x-5}+4$ by $3\sqrt{x-5-6}$
6. $3\sqrt{5}-4\sqrt{2}$ by $2\sqrt{5}+3\sqrt{2}$
7. $\sqrt{2}+2\sqrt{3}\sqrt{7}$ by $\sqrt{2}+2\sqrt{3}-\sqrt{7}$
8. $3-\sqrt{5}+\sqrt{8}$ by $3-\sqrt{5}-\sqrt{8}$
9. $\sqrt{11}+\sqrt{6}-\sqrt{3}$ by $\sqrt{11}-\sqrt{6}+\sqrt{3}$
10. $\sqrt[3]{4}+\sqrt[3]{9}+\sqrt[3]{48}$ by $\sqrt[3]{2}+\sqrt[3]{3}$

II. Find the square of

11. $\sqrt{x+a}-\sqrt{x-a}$
12. $2\sqrt{8}+5\sqrt{6}$
13. $2\sqrt{5}+3\sqrt{7}$
14. $\sqrt{a^2+2b^2}-\sqrt{a^2-2b^2}$
15. $2\sqrt{x^2+y^2}+5\sqrt{x^2-y^2}$

ANSWERS

1. $a\sqrt{b}+b\sqrt{a}$
2. $a-b$
3. $6a-10\sqrt{a}$
4. $16x-9y$
5. $6x-54$
6. $6+\sqrt{10}$
7. $7+4\sqrt{6}$
8. $6-6\sqrt{5}$
9. $2+6\sqrt{2}$
10. $5+3\sqrt[3]{12}+3\sqrt[3]{18}$
11. $2x-2\sqrt{x^2-a^2}$
12. $182+80\sqrt{3}$
13. $83+12\sqrt{35}$
14. $2a^2-2\sqrt{a^4-4b^4}$
15. $29x^2-21y^2+20\sqrt{x^4-y^4}$