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ST. LAWRENCE HIGH SCHOOL



A Jesuit Christian minority Institution

Subject: Mathematics

Class- X

Date:12/05/2020

Worksheet-25

Chapter-Surds

Topic-concept of surds

1. Choose the correct alternative. $1 \times 15 = 15$

a) Simplify: $\sqrt{125} \times \sqrt{5}$

i) 625 ii) 25 iii) 225 iv) none of these

b) simplify: $\sqrt{100} \times \sqrt{2}$

i) 10 ii) $2\sqrt{5}$ iii) $10\sqrt{2}$ iv) none of these

c) Rationalize the denominator of the surd $\sqrt{5}/3\sqrt{3}$.

i) $\frac{\sqrt{15}}{9}$ ii) $\frac{\sqrt{5}}{3}$ iii) $\frac{3\sqrt{5}}{5}$ iv) none of these

d) Rationalize the denominator of the surd $\frac{2}{\sqrt{7}-\sqrt{3}}$

i) $\frac{2}{\sqrt{7}+\sqrt{3}}$ ii) $\frac{\sqrt{7}+\sqrt{3}}{2}$ iii) $\frac{\sqrt{7}+\sqrt{3}}{4}$ iv) none of these

e) Express the surd $\sqrt{3/5}\sqrt{2}$ in the simplest form.

i) $\frac{\sqrt{6}}{10}$ ii) $\frac{2\sqrt{3}}{15}$ iii) $\frac{\sqrt{2}}{10}$ iv) none of these

f) Expand $(2\sqrt{2} - \sqrt{6}) \times (2\sqrt{2} + \sqrt{6})$, expressing the result in the simplest form of surd:

i) 4 ii) $2\sqrt{2}$ iii) 2 iv) none of these

g) $\sqrt[9]{19} \times \sqrt[5]{10^0} = \underline{\hspace{2cm}}$.

i) $\sqrt[9]{19}$ ii) $\sqrt[9]{19} \times \sqrt[5]{10}$ iii) 1 iv) none of these

h) $\sqrt{50}$ is a surd of order _____.

i) 3 ii) 1 iii) 2 iv) none of these

i) Simplify: $3\sqrt{2x} - 5\sqrt{8x} + \sqrt{72x}$

i) $\sqrt{2x}$ ii) $-\sqrt{2x}$ iii) $\sqrt{2} x$ iv) none of these

j) Simplify: $\frac{2\sqrt{3}}{5} + \sqrt{108}$

i) $\frac{32\sqrt{3}}{5}$ ii) $\frac{5\sqrt{3}}{32}$ iii) $\frac{3\sqrt{5}}{32}$ iv) none of these

k) Simplify: $(5\sqrt{2} - \sqrt{5}) (\sqrt{2} + \sqrt{5})$

i) $5 + 4\sqrt{10}$ ii) $4 + 5\sqrt{10}$ iii) $2\sqrt{10}$ iv) none of these

l) simplify : $\frac{\sqrt{3}}{\sqrt{7}-\sqrt{3}}$

i) $\frac{\sqrt{21}+3}{4}$ ii) $\frac{\sqrt{21}-3}{4}$ iii) $\sqrt{21} - 3$ iv) none of these

m) Simplify : $\sqrt{125x^3}$

i) $5x\sqrt{5x}$ ii) $\sqrt{5x}$ iii) $\sqrt{5x}$ iv) none of these

n) simplify: $\sqrt{96} + \sqrt{24}$

i) 6 ii) $6\sqrt{6}$ iii) $10\sqrt{6}$ iv) none of these

o) If $\sqrt{2^n} = 64$, Find n

i) 6 ii) 2 iii) 12 iv) none of these

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