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ST. LAWRENCE HIGH SCHOOL



A Jesuit Christian minority Institution

Subject: Mathematics

Class- X

Date:12/05/2020

Answer key of Worksheet-25

Chapter-Surds

Topic-concept of surds

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

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

Ans. ii) 25

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

Ans iii) $10\sqrt{2}$

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

Ans i) $\frac{\sqrt{15}}{9}$

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

Ans ii) $\frac{\sqrt{7}+\sqrt{3}}{2}$

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

Ans i) $\frac{\sqrt{6}}{10}$

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

Ans iii) 2

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

Ans) $\sqrt[9]{19}$

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

Ans iii) 2

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

Ans ii) $-\sqrt{2x}$

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

Ans) $\frac{32\sqrt{3}}{5}$

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

Ans) $5 + 4\sqrt{10}$

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

Ans) $\frac{\sqrt{21}+3}{4}$

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

Ans) $5x\sqrt{5x}$

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

Ans ii) $6\sqrt{6}$

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

Ans iii) 12

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