ST. LAWRENCE HIGH SCHOOL

A Jesuit Christian minority Institution

Subject: Mathematics **Class: X** **Date:15.03.2021**

Answer key of Worksheet -15

Chapter- Trigonometric Ratios of complementary angles

Topic-Trigonometric Ratios of complementary angles

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1. Choose the correct alternative. 1x15=15

a)If sin3A= cos (A-26°), where 3A is a positive acute angle when value of A is

i) 30° ii) 20° iii) 29° iv) none of these

b)$\tan^2 66° - \cot^2 24°$= _____ i) 0 ii) 1 iii) 3 iv) none of these

c) sin 53° cos 37° + cos 53° sin37°=_____ i) 2 ii) 0 iii) 1 iv) none of these

d)sec70°sin 20° + cos 20° cosec70° = _____ i) 2 ii) 1 iii) 0 iv) none of these

e)tan 48°tan23°tan42°tan67°=_____i) 0 ii) 3 iii) 1 iv) none of these

f)

$\frac{sin\,70°}{cos\,20°}$ + $\frac{cosec70°}{sec20°}$- 2cos 70°cosec20°=_____ i) 0 ii) 1 iii) 3 iv) none of these

g)

$\frac{sin18°}{cos72°}$ +$\sqrt{3}$ (tan 10° tan30° tan40° tan 50° tan 80°)= _____i) 1 ii) 3 iii) 2 iv) none of these

h)

$\frac{cos\,(90°-)}{1+sin(90°-)}$ + $\frac{1+sin(90°-)}{cos\,(90°-)}$ =_____i) 2cosesΘ ii) 2 cos Θ iii) 2 sinΘ iv) none of these

i) Cot θ tan (90°-Θ)-sec(90°-Θ)cosecΘ + $\sqrt{3}$ tan12° tan60° tan 78°

=_____i) 4 ii) 2 iii) 0 iv) none of these

j) Cos15° cos 35° cosec55° cos60° cosec75 °=_____ i) ½ ii) 2/3 iii)1 iv) none of these

k) Sin(70°+Θ)- cos (20°- Θ) = _____ i) 3 ii) 2 iii) 0 iv) none of these

l) Sin(50°+Θ) – cos (40°-Θ) + tan1° tan10° tan 20° tan 70° tan80° tan89°=_____ i)1 ii) 2 iii) 4 iv) none of these

m) If cos2Θ=sin4Θwhere 2Θ and 4Θ are two positive angles . The value of Θ is i) 20° ii) 15° iii) 30° iv) none of these

n)If sin3A= cos (A-26°) where 3A is a positive acute angle ,then value of A is i) 29° ii) 30° iii) 26° iv) none of these

o) If sec4A = cosec(A-15°) ,where 4A is a positive acute angle then value of A is i) 32° ii) 21° iii) 34° iv) none of these

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