Middle 3 (Trigonometry)

(I) Choose the correct answer: (6 marks)

1) If $\sin x = \frac{\sqrt{3}}{2}$ where x is a measure of an acute angle, then x = ---------

a) 30° b) 45° c) 60° d) 90°

2) If Δ ABC is a right-angled triangle at B , sin C = $\frac{3}{5}$ and AB = 6 cm , then AC = --------- cm

a) 5 b) 10 c) 6 d) 3

3) If $\tan 3x = \frac{1}{\sqrt{3}}$ where $3x$ is a measure of an acute angle, then x = ---------

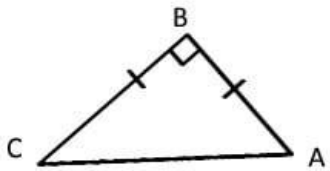
a) 10° b) 20° c) 30° d) 40°

4) $sin^2 30° + cos^2 30°$ = ---------

a) $\frac{\sqrt{3}+1}{2}$ b) $\frac{1}{2}$ c) $\frac{\sqrt{3}}{2}$ d) 1

5) **In the opposite figure:**

AB = AC , m(∠ A) = 90° , then tan C = ---------



a) 1 b) $\frac{1}{2}$ c) $\frac{\sqrt{3}}{2}$ d) $\frac{1}{\sqrt{3}}$

6) If m(∠ A) = 75° , sin B = cos A where ∠ A is a measure of an acute angle , then m(∠ B) = ---------

a) 1 b) $\frac{1}{2}$ c) $\frac{\sqrt{3}}{2}$ d) $\frac{1}{\sqrt{3}}$

(II) Answer the following: (4 marks)

Without using the calculator , find the value of x that satisfies :

$\sqrt{3}$ tan x = sin 30° cos 60° + cos 30° sin 60°
