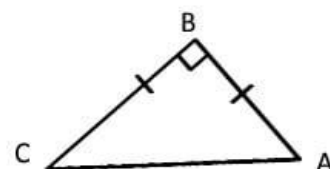


Middle 3 (Trigonometry)

(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 $x = \dots\dots\dots$
a) 30° b) 45° c) 60° d) 90°
- 2) If $\triangle ABC$ is a right-angled triangle at B, $\sin C = \frac{3}{5}$ and $AB = 6$ cm, then $AC = \dots\dots\dots$ 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 $x = \dots\dots\dots$
a) 10° b) 20° c) 30° d) 40°
- 4) $\sin^2 30^\circ + \cos^2 30^\circ = \dots\dots\dots$
a) $\frac{\sqrt{3}+1}{2}$ b) $\frac{1}{2}$ c) $\frac{\sqrt{3}}{2}$ d) 1
- 5) **In the opposite figure:**
 $AB = AC$, $m(\angle A) = 90^\circ$, then $\tan C = \dots\dots\dots$
a) 1 b) $\frac{1}{2}$ c) $\frac{\sqrt{3}}{2}$ d) $\frac{1}{\sqrt{3}}$
- 6) If $m(\angle A) = 75^\circ$, $\sin B = \cos A$ where $\angle A$ is a measure of an acute angle, then $m(\angle B) = \dots\dots\dots$
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 :

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

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