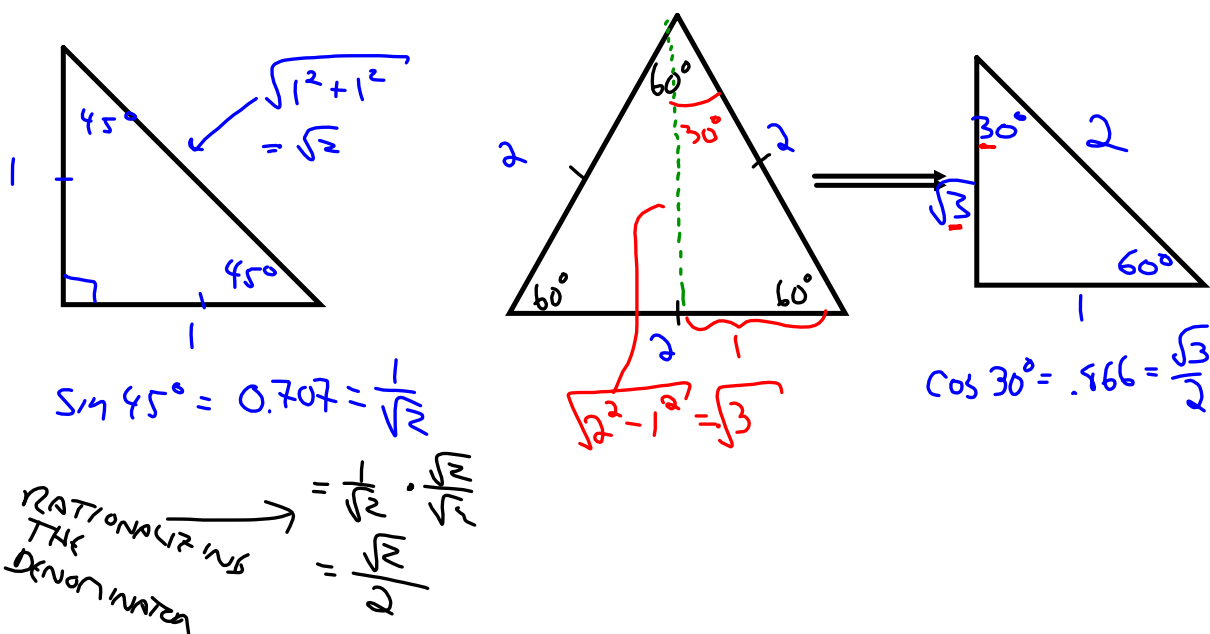


5.2 Trig of Special Angles

Apr 28



Σx) GIVE AN EXACT RATIO FOR EACH TRIG RATIO.

a) $\tan 30^\circ = \frac{1}{\sqrt{3}}$

d) $\sec 45^\circ = \frac{\sqrt{2}}{1} = \sqrt{2}$

b) $\cos 60^\circ = \frac{1}{2}$

e) $\cot 60^\circ = \frac{1}{\sqrt{3}}$

c) $\sin 60^\circ = \frac{\sqrt{3}}{2}$

f) $\cot 45^\circ = \frac{1}{1} = 1$

$\cos 30^\circ = \frac{\sqrt{3}}{2}$

Σx) SOLVE EACH TRIG EQUATION, $0 \leq x \leq 90^\circ$

a) $\sin x = \frac{\sqrt{2}}{2}$
 $x = 45^\circ$

d) $\tan x = \sqrt{3}$
 $x = 60^\circ$

b) $\cos x = \frac{\sqrt{3}}{2}$
 $x = 30^\circ$

e) $\cot x = \frac{1}{\sqrt{3}}$
 $x = 60^\circ$

c) $\sec x = \sqrt{2}$
 $x = 45^\circ$

f) $\csc x = \frac{2\sqrt{3}}{3} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{2(\cancel{3})}{3\sqrt{3}} = \frac{2}{\sqrt{3}}$
 $x = 60^\circ$

Σx) PROVE THAT $\sin^2 \theta + \cos^2 \theta = 1$
 WHEN $\theta = 60^\circ$

$$\begin{aligned} L.S. &= \sin^2 \theta + \cos^2 \theta \\ &= (\sin 60)^\circ + (\cos 60)^\circ \\ &= \left(\frac{\sqrt{3}}{2}\right)^2 + \left(\frac{1}{2}\right)^2 \\ &= \frac{3}{4} + \frac{1}{4} \\ &= \frac{4}{4} \\ &= 1 \\ &= R.S. \end{aligned}$$

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