

Essential Skills 11

The skills in this series of worksheets appear frequently.

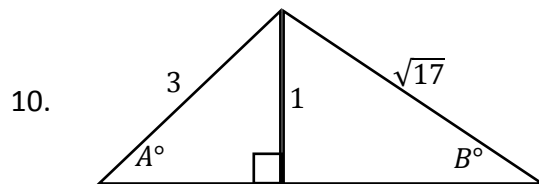
These are the GIFTS you must take to succeed

Trigonometric Formula



Calculate the exact value in each:

1. $\sin 75^\circ$ given that $75^\circ = 30^\circ + 45^\circ$
2. $\cos 15^\circ$ given that $15^\circ = 60^\circ - 45^\circ$
3. Given $\tan x^\circ = \frac{3}{4}$, find $\sin 2x^\circ$
4. Given $\tan x^\circ = \frac{2}{3}$, find $\cos 2x^\circ$
5. Given $\tan A^\circ = \frac{1}{2}$, find $\sin(A + 30)^\circ$
6. Given $\sin P^\circ = \frac{12}{13}$, find $\cos(P + 30)^\circ$
7. Given $\cos B^\circ = \frac{1}{\sqrt{10}}$, find $\sin(B - 45)^\circ$
8. Given $\tan x^\circ = \frac{2}{5}$, find $\sin 2x^\circ$
9. Given $\tan A^\circ = \frac{3}{4}$ and $\tan B^\circ = \frac{1}{2}$, find $\sin(A + B)^\circ$



Show that $\cos(A - B)^\circ = \frac{8\sqrt{2}+1}{3\sqrt{17}}$



APPLYING QUESTIONS

1. Given that $\cos 2x^\circ = \frac{7}{25}$ find the value of $\sin x^\circ$. ($0 < x < 90^\circ$)

2. A right-angled triangle with a vertical side of length 2 and a horizontal side of length 1. The angle at the bottom right is A° . The right angle is at the bottom left.

(a) Given that $3A = 2A + A$ find the value of $\sin 3A^\circ$

(b) Hence, or otherwise, find the value of $\tan 3A^\circ$