

Cotangent and tangent are reciprocals, as they should be. However, you cannot have this value of cosine for the same angle. Since $\tan X = \frac{2}{3}$, you could have $o = 2$ and $a = 3$. If $\cos X = \frac{3}{4} = \frac{a}{h}$, then $h = 4$. But the lengths 2, 3, and 4 do not satisfy the Pythagorean Theorem. The correct answer is: $\sin X = \frac{3}{4}$, $\cot X = \frac{\sqrt{7}}{3}$, $\tan X = \frac{3}{\sqrt{7}}$