IMPORTANT NOTES

1/ $\sqrt{4 \times 16}$ does equal $\sqrt{4} \times \sqrt{16} = 2 \times 3 = 6$

2/ $\sqrt{4+9}$ does NOT equal $\sqrt{4} + \sqrt{9}$

(all we can write is $\sqrt{13}$)

3/ $\sqrt{a^2 b^2} = \sqrt{a^2} \times \sqrt{b^2} = a \times b$

4/ $\sqrt{a^2+b^2} \neq a + b$

5/ $\sqrt{10^2 - 8^2} \neq 10 - 8$

$\sqrt{10^2 - 8^2} = \sqrt{100 - 64} = \sqrt{36} = 6$

6/ $\frac{5}{\sqrt{2}} = \frac{5}{\sqrt{2}} \times \frac{\sqrt{2}}{\sqrt{2}} = \frac{5\sqrt{2}}{2}$

7/ $\frac{4+\sqrt{3}}{5+\sqrt{3}} = \frac{(4+\sqrt{3})}{(5+\sqrt{3})} \times \frac{(5-\sqrt{3})}{(5-\sqrt{3})}$

$= \frac{20 + 5\sqrt{3} - 4\sqrt{3} - 3}{25 + 5\sqrt{3} - 5\sqrt{3} - 3}$

$= \frac{17 + \sqrt{3}}{22}$

8/ $\frac{2+\sqrt{7}}{3+\sqrt{7}} = \frac{(2+\sqrt{7})}{(3+\sqrt{7})} \times \frac{(3-\sqrt{7})}{(3-\sqrt{7})}$

$= \frac{6 + 3\sqrt{7} - 2\sqrt{7} - 7}{9 + 3\sqrt{7} - 3\sqrt{7} - 7}$

$= \frac{-1 + \sqrt{7}}{2}$