

C1 Jan 2009

$$\textcircled{2} \text{ a) } \frac{(10\sqrt{3}-1)}{(4-\sqrt{3})} \times \frac{(4+\sqrt{3})}{(4+\sqrt{3})}$$

$$= \frac{40\sqrt{3} + 30 - 4 - \sqrt{3}}{16 + 4\sqrt{3} - 4\sqrt{3} - 3}$$

$$= \frac{39\sqrt{3} + 26}{13} = 3\sqrt{3} + 2$$

$$\begin{aligned} \text{b) } (2+\sqrt{5})(5-\sqrt{20}) &= 10 - 2\sqrt{20} + 5\sqrt{5} - \sqrt{100} \\ &= 10 - 2\sqrt{5} + 5\sqrt{5} - 10 \\ &= 3\sqrt{5} \end{aligned}$$

$$\begin{aligned} \sqrt{20} &= \sqrt{4 \times 5} \\ &= 2\sqrt{5} \end{aligned}$$