

# DN Racines carrées.

**Ex 1**

$$\begin{aligned} A &= 2\sqrt{3}(3-5\sqrt{3}) - (2\sqrt{3}-3) \\ &= 6\sqrt{3} - 10 \times \sqrt{3}^2 - 2\sqrt{3} + 3 \\ &= 6\sqrt{3} - 30 - 2\sqrt{3} + 3 \\ &= \boxed{4\sqrt{3} - 27} \end{aligned}$$

$$\begin{aligned} B &= (5\sqrt{2}-3)^2 \\ &= (5\sqrt{2})^2 - 2 \times 5\sqrt{2} \times 3 + 3^2 \\ &= 50 - 30\sqrt{2} + 9 \\ &= \boxed{59 - 30\sqrt{2}} \end{aligned}$$

$$\begin{aligned} C &= 3(1-\sqrt{2})^2 \\ &= 3(1-2\sqrt{2}+2) \\ &= 3-6\sqrt{2}+6 \\ &= \boxed{9-6\sqrt{2}} \end{aligned}$$

$$\begin{aligned} D &= \sqrt{5} - (3+2\sqrt{5})^2 \\ &= \sqrt{5} - (9 + 2 \times 3 \times 2\sqrt{5} + (2\sqrt{5})^2) \\ &= \sqrt{5} - (9 + 12\sqrt{5} + 20) \\ &= \sqrt{5} - 9 - 12\sqrt{5} - 20 \\ &= \boxed{-11\sqrt{5} - 29} \end{aligned}$$

**Ex 2**

$$\begin{aligned} A &= 3(\sqrt{25}-1)^2 \\ &= 3(5-1)^2 \\ &= 3 \times 4^2 \\ &= 3 \times 16 \\ &= \boxed{48} \end{aligned}$$

$$\begin{aligned} B &= \sqrt{40 - \sqrt{16}} \\ &= \sqrt{40 - 4} \\ &= \sqrt{36} \\ &= \boxed{6} \end{aligned}$$

**Ex 3** Simplifier.

$$\begin{aligned} \sqrt{300} &= \sqrt{100 \times 3} \\ &= \sqrt{100} \times \sqrt{3} \\ &= \boxed{10\sqrt{3}} \end{aligned}$$

$$\begin{aligned} 2\sqrt{18} &= 2\sqrt{9 \times 2} \\ &= 2 \times \sqrt{9} \times \sqrt{2} \\ &= 2 \times 3\sqrt{2} \\ &= \boxed{6\sqrt{2}} \end{aligned}$$

$$\begin{aligned} \sqrt{11^2 \times 7^2} &= \sqrt{11} \times \sqrt{7^2} \\ &= 11 \times 7 \\ &= \boxed{77} \end{aligned}$$

$$\begin{aligned} \sqrt{17^3} &= \sqrt{17^2 \times 17} \\ &= \sqrt{17^2} \times \sqrt{17} \\ &= \boxed{17\sqrt{17}} \end{aligned}$$

$$\begin{aligned} \sqrt{3^2 \times 2^7} &= \sqrt{3^2} \times \sqrt{2^6 \times 2} \\ &= 3 \times \sqrt{(2^3)^2} \times 2 \\ &= 3 \times \sqrt{2^3}^2 \times \sqrt{2} \\ &= 3 \times 2^3 \times \sqrt{2} \\ &= \boxed{24\sqrt{2}} \end{aligned}$$