Test Racines carrés

14
12

Ex1

$A = 3\sqrt{18} = 3\sqrt{9\times 2} = 3\sqrt{9}\times\sqrt{2} = 3\times 3\sqrt{2} = \boxed{9\sqrt{2}}$

$B = 7\sqrt{12} = 7\sqrt{4\times 3} = 7\times\sqrt{4}\times\sqrt{3} = 7\times 2\sqrt{3} = \boxed{14\sqrt{3}}$

$C = 7\sqrt{5} + 3\sqrt{20}$

$= 7\sqrt{5} + 3\sqrt{4\times 5} = 7\sqrt{5} + 3\times\sqrt{4}\times\sqrt{5}$

$= 7\sqrt{5} + 6\sqrt{5} = \boxed{13\sqrt{5}}$

$D = 2\sqrt{8} - 5\sqrt{24} = 2\sqrt{4\times 2} - 5\sqrt{4\times 6}$

$= 2\sqrt{4}\times\sqrt{2} - 5\sqrt{4}\times\sqrt{6}$

$= \boxed{4\sqrt{2} - 10\sqrt{6}}$

Ex2

$E = (4\sqrt{5})^2 = 4^2\times(\sqrt{5})^2 = 16\times 5 = \boxed{80}$

$F = (3\sqrt{2})^3 = 3^3\times(\sqrt{2})^3 = 27\times(\sqrt{2})^2\times\sqrt{2}$

$= 27\times 2\times\sqrt{2} = \boxed{54\sqrt{2}}$

$G = 2\sqrt{5}\times 3\sqrt{10}$

$= 6\sqrt{50} = 6\sqrt{25\times 2} = 6\sqrt{25}\times\sqrt{2} = 6\times 5\sqrt{2}$

$= \boxed{30\sqrt{2}}$

$H = 3\sqrt{2}\times 5\sqrt{3}\times\sqrt{6} = 15\sqrt{6}\times\sqrt{6} = 15\times 6 = \boxed{90}$

$I = 2\sqrt{3}(\sqrt{3} - 5\sqrt{2}) = 2(\sqrt{3})^2 - 2\sqrt{3}\times 5\sqrt{2}$

$= 2\times 3 - 10\sqrt{6} = \boxed{6 - 10\sqrt{6}}$

$J = (1 - 3\sqrt{5})(2\sqrt{3} - 1)$

$= 2\sqrt{3} - 1 - 3\sqrt{5}\times 2\sqrt{3} + 3\sqrt{5}$

$= \boxed{2\sqrt{3} - 1 - 6\sqrt{15} + 3\sqrt{5}}$

Ex3

$K = (3\sqrt{5} - \sqrt{2})^2 = (3\sqrt{5})^2 - 2\times 3\sqrt{5}\times\sqrt{2} + (\sqrt{2})^2$

$= 45 - 6\sqrt{10} + 2 = \boxed{47 - 6\sqrt{10}}$

$L = (3\sqrt{2} + \sqrt{3})^2 = (3\sqrt{2})^2 + 2\times 3\sqrt{2}\times\sqrt{3} + (\sqrt{3})^2$

$= 9\times 2 + 6\sqrt{6} + 3$

$= \boxed{21 + 6\sqrt{6}}$

Ex4

$M = \dfrac{2}{\sqrt{7}} = \dfrac{2\sqrt{7}}{(\sqrt{7})^2} = \boxed{\dfrac{2\sqrt{7}}{7}}$

$N = \dfrac{2}{3+\sqrt{2}} = \dfrac{2(3-\sqrt{2})}{(3+\sqrt{2})(3-\sqrt{2})} = \dfrac{6-2\sqrt{2}}{3^2-(\sqrt{2})^2}$

$= \dfrac{6-2\sqrt{2}}{9-2}$

$= \boxed{\dfrac{6-2\sqrt{2}}{7}}$