

Test Racines correct.

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$$\boxed{\text{Ex 1}} \quad A = 3\sqrt{18} = 3\sqrt{9 \times 2} = 3\sqrt{9} \times \sqrt{2} = 3 \times 3\sqrt{2} = \boxed{9\sqrt{2}}$$

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

$$\begin{aligned} C &= 7\sqrt{5} + 3\sqrt{20} \\ &= 7\sqrt{5} + 3\sqrt{4 \times 5} = 7\sqrt{5} + 3 \times \sqrt{4} \times \sqrt{5} \\ &= 7\sqrt{5} + 6\sqrt{5} = \boxed{13\sqrt{5}} \end{aligned}$$

$$\begin{aligned} D &= 2\sqrt{8} - 5\sqrt{24} = 2\sqrt{4 \times 2} - 5\sqrt{4 \times 6} \\ &= 2\sqrt{4} \times \sqrt{2} - 5\sqrt{4} \times \sqrt{6} \\ &= \boxed{4\sqrt{2} - 10\sqrt{6}} \end{aligned}$$

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

$$\begin{aligned} F &= (3\sqrt{2})^3 = 3^3 \times (\sqrt{2})^3 = 27 \times (\sqrt{2})^2 \times \sqrt{2} \\ &= 27 \times 2 \times \sqrt{2} = \boxed{54\sqrt{2}} \end{aligned}$$

$$\begin{aligned} G &= 2\sqrt{5} \times 3\sqrt{10} \\ &= 6\sqrt{50} = 6\sqrt{25 \times 2} = 6\sqrt{25} \times \sqrt{2} = 6 \times 5\sqrt{2} \\ &= \boxed{30\sqrt{2}} \end{aligned}$$

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

$$\begin{aligned} I &= 2\sqrt{3}(\sqrt{3} - 5\sqrt{2}) = 2(\sqrt{3})^2 - 2\sqrt{3} \times 5\sqrt{2} \\ &= 2 \times 3 - 10\sqrt{6} = \boxed{6 - 10\sqrt{6}} \end{aligned}$$

$$\begin{aligned} J &= (1 - 3\sqrt{5})(2\sqrt{3} - 1) \\ &= 2\sqrt{3} - 1 - 3\sqrt{5} \times 2\sqrt{3} + 3\sqrt{5} \\ &= \boxed{2\sqrt{3} - 1 - 6\sqrt{15} + 3\sqrt{5}} \end{aligned}$$

$$\boxed{\text{Ex 3}} \quad K = (3\sqrt{5} - \sqrt{2})^2 = (3\sqrt{5})^2 - 2 \times 3\sqrt{5} \times \sqrt{2} + (\sqrt{2})^2 \\ = 45 - 6\sqrt{10} + 2 = \boxed{47 - 6\sqrt{10}}$$

$$\begin{aligned} L &= (3\sqrt{2} + \sqrt{3})^2 = (3\sqrt{2})^2 + 2 \times 3\sqrt{2} \times \sqrt{3} + (\sqrt{3})^2 \\ &= 9 \times 2 + 6\sqrt{6} + 3 \\ &= \boxed{21 + 6\sqrt{6}} \end{aligned}$$

$$\boxed{\text{Ex 4}} \quad N = \frac{2}{\sqrt{7}} = \frac{2\sqrt{7}}{(\sqrt{7})^2} = \boxed{\frac{2\sqrt{7}}{7}}$$

$$\begin{aligned} N &= \frac{2}{3+\sqrt{2}} = \frac{2(3-\sqrt{2})}{(3+\sqrt{2})(3-\sqrt{2})} = \frac{6-2\sqrt{2}}{3^2 - (\sqrt{2})^2} \\ &= \frac{6-2\sqrt{2}}{9-2} \\ &= \boxed{\frac{6-2\sqrt{2}}{7}} \end{aligned}$$