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$$\begin{aligned}(1) \quad & 8 - 2 \times (-5)^3 \\ & = 8 + 250 \\ & = 258\end{aligned}$$

$$\begin{aligned}(2) \quad & \frac{\sqrt{3}}{\sqrt{7}} + \frac{\sqrt{7}}{\sqrt{3}} \\ & = \frac{\sqrt{3} \times \sqrt{7}}{\sqrt{7} \times \sqrt{7}} + \frac{\sqrt{7} \times \sqrt{3}}{\sqrt{3} \times \sqrt{3}} \\ & = \frac{\sqrt{21}}{7} + \frac{\sqrt{21}}{3} \\ & = \frac{3\sqrt{21}}{21} + \frac{7\sqrt{21}}{21} \\ & = \frac{10\sqrt{21}}{21}\end{aligned}$$

$$\begin{aligned}(3) \quad & (3 - \sqrt{5})^2 - (\sqrt{7} - \sqrt{3})(\sqrt{7} + \sqrt{3}) \\ & = 9 - 6\sqrt{5} + 5 - (7 - 3) \\ & = 10 - 6\sqrt{5}\end{aligned}$$

$$\begin{aligned}(4) \quad & \frac{2}{5}x^2 \times \frac{7}{4}xy \div \left(-\frac{1}{10}x^2y^2\right) \\ & = -\frac{7}{10}x^3y \times \frac{10}{x^2y^2} \\ & = -\frac{7x}{y}\end{aligned}$$

$$\begin{aligned}(5) \quad & \frac{3x-4}{5} - \frac{x-2}{2} \\ & = \frac{6x-8}{10} - \frac{5x-10}{10} \\ & = \frac{x+2}{10}\end{aligned}$$