1. Calcula:

(a) $\frac{3^{-2}\cdot 3^5\cdot 2^3}{(3\cdot 2)^4}$

Sol: $\frac{1}{6}$

(b) $3^{-5}\cdot(\frac{1}{3})^{-2}\cdot 81$

Sol: 3

(c) $(\frac{5}{4})^5\cdot\frac{2^6}{5^2}$

Sol: $\frac{125}{16}$

(d) $\frac{2^{-2}\cdot(2^2)^3}{2^{-3}}$

Sol: 128

(e) $\frac{5^{-3}\cdot 5^{-1}\cdot 5^2}{5^0+5^6}$

Sol: $\frac{1}{390650}$

(f) $(\frac{2}{3})^{-2}\cdot(\frac{3}{2})^4$

Sol: $\frac{729}{64}$

(g) $\frac{\sqrt{2}\cdot(\sqrt{2})^3\cdot(\sqrt{5})^3}{(5\sqrt{2})^2}$

Sol: $\frac{2\sqrt{5}}{5}$

(h) $\frac{9^{\frac{1}{2}}\cdot 3^{-1}\cdot 2^{\frac{3}{2}}}{\sqrt{2}}$

Sol: 2

2. Calcula:

(a) $\frac{3^{-2}\cdot 3^5\cdot 2^3}{(3\cdot 2)^4}$

Sol: $\frac{1}{6}$

(b) $3^{-5}\cdot(\frac{1}{3})^{-2}\cdot 81$

Sol: 3

(c) $(\frac{5}{4})^5\cdot\frac{2^6}{5^2}$

Sol: $\frac{125}{16}$

(d) $\frac{2^{-2}\cdot(2^2)^3}{2^{-3}}$

Sol: 128

(e) $\frac{5^{-3}\cdot 5^{-1}\cdot 5^2}{5^0+5^6}$

Sol: $\frac{1}{390650}$

(f) $(\frac{2}{3})^{-2}\cdot(\frac{3}{2})^4$

Sol: $\frac{729}{64}$

(g) $\frac{\sqrt{2}\cdot(\sqrt{2})^3\cdot(\sqrt{5})^3}{(5\sqrt{2})^2}$

Sol: $\frac{2\sqrt{5}}{5}$

(h) $\frac{9^{\frac{1}{2}}\cdot 3^{-1}\cdot 2^{\frac{3}{2}}}{\sqrt{2}}$

Sol: 2

(i) $\sqrt{16}$

Sol: 4

(j) $\sqrt[4]{-16}$

Sol: $2\sqrt[4]{-1}$

(k) $\sqrt[3]{27}$

Sol: 3

(l) $\sqrt[5]{-1}$

Sol: $\sqrt[5]{-1}$

(m) $\sqrt{1225}$

Sol: 35

(n) $\sqrt[7]{1}$

Sol: 1