$$4 = 2 \cdot 2 = 2^2$$
$$8 = 2 \cdot 2 \cdot 2 = 2^3$$

$$\left[-2^2\right]^{-5} \cdot 8^{-3} \cdot 4^5 \cdot \left[(-2)^2\right]^3 \cdot (-2)^3 =$$

$$= \left[-4\right]^{-5} \cdot 8^{-3} \cdot 4^5 \cdot \left[4\right]^3 \cdot (-8) =$$

$$= \left[-\frac{1}{4}\right]^5 \cdot \left(\frac{1}{8}\right)^3 \cdot 4^5 \cdot 4^3 \cdot (-8) =$$

$$= \left[-\frac{1}{2^2}\right]^5 \cdot \left(\frac{1}{2^3}\right)^3 \cdot (2^2)^5 \cdot (2^2)^3 \cdot (-1) \cdot 2^3 =$$

$$= -\frac{1}{2^{10}} \cdot \frac{1}{2^9} \cdot 2^{10} \cdot 2^6 \cdot (-1) \cdot 2^3 = \frac{2^9}{2^9} = \textcircled{1}$$

$$\left\{ 2^{-2} \cdot 2^3 : 2^2 \cdot \left[\left(2^5 \cdot 2 \right)^{-2} : \left(2^3 \cdot 2^1 \right)^{-1} \right] \right\}^{-1} : 2^2 =$$

$$= \left\{ 2^{-2} \cdot 2^3 : 2^2 \cdot \left[\left(2^6 \right)^{-2} : \left(2^4 \right)^{-1} \right]^{-1} : 2^2 = \right.$$

$$= \left\{ 2^{-2} \cdot 2^3 : 2^2 \cdot \left[2^{-12} : 2^{-4} \right] \right\}^{-1} : 2^2 =$$

$$= \left\{ 2^{-2} \cdot 2^3 : 2^2 \cdot 2^{-8} \right\}^{-1} : 2^2 =$$

$$= \left\{ 2^1 : 2^2 \cdot 2^{-8} \right\}^{-1} : 2^2 = \left\{ 2^{-1} \cdot 2^{-8} \right\}^{-1} : 2^2 = \left\{ 2^{-9} \right\}^{-1} : 2^2 = 2^9 : 2^2 = \checkmark$$

$$\boxed{= \boxed{2^7}}$$

$$\boxed{\begin{array}{l} -12 - (-4) = \\ = -12 + 4 = -8 \end{array}}$$

$$-1 + (-8) = -9$$

$$-12 : 3 + 4 + \{5 - (-2)^3 - [4 - (1 + 2 \cdot 4 - 6) : (-3) + 5] - 6 + 2\} =$$

$$= -12 : 3 + 4 + \{5 - (-8) - [4 - (1 + 8 - 6) : (-3) + 5] - 6 + 2\} =$$

$$= -12 : 3 + 4 + \{5 - (-8) - [4 - 3 : (-3) + 5] - 6 + 2\} =$$

$$= -12 : 3 + 4 + \{5 - (-8) - [4 + 1 + 5] - 6 + 2\} =$$

$$= -12 : 3 + 4 + \{5 + 8 - 10 - 6 + 2\} =$$

$$= -4 + 4 + \{-1\} = \boxed{-1}$$

$$\left[-\frac{1}{4}:\left(-\frac{3}{8}-\frac{1}{2}\right)\right]:\left[\left(\frac{3}{2}-\frac{3}{4}\right):\frac{1}{2}-\left(-\frac{1}{4}+\frac{1}{8}\right):\left(-\frac{1}{4}\right)\right]=$$

$$=\left[-\frac{1}{4}:\left(\frac{-3-4}{8}\right)\right]:\left[\left(\frac{6-3}{4}\right):\frac{1}{2}-\left(\frac{-2+1}{8}\right):\left(-\frac{1}{4}\right)\right]=$$

$$=\left[-\frac{1}{4}:\left(-\frac{7}{8}\right)\right]:\left[\frac{3}{4}:\frac{1}{2}-\left(-\frac{1}{8}\right):\left(-\frac{1}{4}\right)\right]=$$

$$=\left[\frac{1}{4}\cdot\frac{8}{7}\right]:\left[\frac{3}{2}\cdot\frac{2}{1}-\frac{1}{8}\cdot\frac{4}{1}\right]=$$

$$=\frac{2}{7}:\left[\frac{3}{2}-\frac{1}{2}\right]=\frac{2}{7}:\frac{2}{2}=\frac{2}{7}:1=\frac{2}{7}\cdot1=\boxed{\frac{2}{7}}$$

$$\left[\left(-3+\frac{5}{2}\right)\cdot\frac{12}{7}+\frac{14}{22}:\frac{21}{11}\right]\cdot\frac{21}{22}:\left(\frac{2}{5}-\frac{2}{3}\right)=$$

$$=\left[\left(\frac{-6+5}{2}\right)\cdot\frac{12}{7}+\frac{14}{22}\cdot\frac{11}{21}\right]\cdot\frac{21}{22}:\left(\frac{6-10}{15}\right)=$$

$$=\left[-\frac{1}{2}\cdot\frac{12}{7}+\frac{12}{3}\right]\cdot\frac{21}{22}:\left(-\frac{4}{15}\right)=$$

$$=\left[-\frac{6}{7}+\frac{1}{3}\right]\cdot\frac{21}{22}:\left(-\frac{4}{15}\right)=$$

$$=\left[\frac{-18+7}{21}\right]\cdot\frac{21}{22}:\left(-\frac{4}{15}\right)= \quad -\frac{11}{21}\cdot\frac{21}{22}:\left(-\frac{4}{15}\right)=$$

$$=\left(-\frac{1}{2}\right):\left(-\frac{4}{15}\right)=\frac{1}{2}\cdot\frac{15}{4}=\boxed{\frac{15}{8}}\ \checkmark$$

$$\left[\frac{3}{5}:\left(\frac{4}{1}+\frac{8}{5}\right)\cdot\left(\frac{2}{5}+\frac{1}{1}\right)-\frac{6}{5}:(-8)\right]\cdot\left\{\frac{5}{3}+\left[\left(-\frac{7}{1}+\frac{3}{4}\right):\left(\frac{1}{2}-\frac{1}{3}\right)\right]\cdot\left(\frac{1}{1}-\frac{7}{15}\right)\right\}=$$

$$=\left[\frac{3}{5}:\left(\frac{20+8}{5}\right)\cdot\left(\frac{2+5}{5}\right)+\frac{6}{5}\cdot\frac{1}{64}\right]\cdot\left\{\frac{5}{3}+\left[\left(\frac{-8+3}{4}\right):\left(\frac{3-2}{6}\right)\right]\cdot\left(\frac{15-7}{15}\right)\right\}=$$

$$=\left[\frac{3}{5}:\frac{28}{5}\cdot\frac{7}{5}+\frac{3}{20}\right]\cdot\left\{\frac{5}{3}+\left[\left(-\frac{5}{4}\right):\frac{1}{6}\right]\cdot\frac{8}{15}\right\}=$$

$$=\left[\frac{3}{5}\cdot\frac{5}{28}\cdot\frac{7}{5}+\frac{3}{20}\right]\cdot\left\{\frac{5}{3}+\left[-\frac{5}{4}\cdot\frac{6}{1}\right]\cdot\frac{8}{15}\right\}=$$

$$=\left[\frac{3}{20}+\frac{3}{20}\right]\cdot\left\{\frac{5}{3}+\left(-\frac{15}{2}\cdot\frac{48}{15}\right)\right\}=$$

$$=\frac{3}{10}\cdot\left\{\frac{5}{3}-\frac{4}{1}\right\}=\frac{3}{10}\cdot\left\{\frac{5-12}{3}\right\}=\frac{3}{10}\cdot\left(-\frac{7}{3}\right)=\left(-\frac{7}{10}\right)\checkmark$$