

OPERACIONES CON NUMEROS RACIONALES

$$1) \quad -4 + \frac{3}{4} - \frac{1}{2} \times 5 + \frac{5}{8} \left(-\frac{2}{15} \right) - \frac{3}{2} \left(-\frac{1}{2} + \frac{1}{2}(-4) \right)$$

$$2) \quad \frac{3}{4}(-8) - \left(-\frac{2}{3} \right)^2 + \left(\frac{1}{2} \right)^3(-10) - \frac{2}{5} \left(-\frac{1}{2} \right) \left(-\frac{10}{3} \right) (-2)^3 + \frac{1}{6}(-1)^5(-3) + \sqrt{25} - \left(\frac{1}{6} \right)^2 3^4$$

$$3) \quad \left(\sqrt{\sqrt{3}} \right)^{-4} - \sqrt[3]{2^{-1} : \sqrt{16}} + \sqrt{\left(\sqrt[3]{8} \right)^{-1} : 2}$$

$$4) \quad \sqrt{\sqrt{\left[(-5)2 - \frac{1}{8} \right] \left(-\frac{1}{2} \right)}} - \sqrt{\sqrt{\sqrt{(-4)^2(-2)^3 \left(-\frac{1}{2} \right)^{-1}}}}$$

$$5) \quad \frac{1 - \frac{1}{2} : 2}{\frac{1}{4} - \frac{3}{2} + 1} - \frac{\left(\frac{1}{2} - 2 \right)^3}{\left(1 - \frac{1}{4} \right)^2} - \frac{\frac{1}{2} - \frac{1}{4}}{\frac{3}{2}} - \frac{\frac{1}{6} - \frac{5}{3}}{\frac{1}{2}}$$

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

$$7) \quad -2 + \left(\frac{2 - \left(-\frac{1}{2}\right)^{-2}}{-3 + (-1)^{-5}} \right)^{-2} \left(\frac{\frac{5}{2^2} - \frac{3}{4} + 1}{(-2)^{-2} + \left(\frac{1}{2}\right)^2} \right)^2 + \frac{\frac{\frac{2}{3}-1}{\frac{3}{2}}}{\frac{1-\frac{2}{3}}{\frac{3}{2}-2}}$$

$$8) \quad \sqrt{\frac{\frac{\frac{1}{5}-\frac{3}{2}+10^{-1}}{-1+\frac{2}{3}-\left(-\frac{4}{5}+1\right)}}{\left(\frac{3-\frac{1}{3}x\frac{11}{2}}{-2-(-5)+2^2}\right)^2}} \quad \text{R=3}$$

$$9) \quad \sqrt{\sqrt{\frac{81}{625}}} - \frac{\left(\frac{1-\frac{1}{2}}{\frac{\frac{3}{2}-(-1)\left(-\frac{2}{3}\right)}{-2+\frac{1}{3}}}\right)^{-1}}{\frac{\frac{1}{5}-1}{\frac{1}{5}-1}}$$

$$10) \quad \frac{-\frac{3}{2}\left(-\frac{3}{5}\right)-\frac{1}{2}(-2)^2\sqrt{\sqrt{\left(-8-\frac{1}{10}\right)(-10)}}}{\sqrt[3]{64:2^3}\left[1-\left(-\frac{1}{3}\right)^{-1}\right]^2}+5^{-1}$$

