

$$85. \frac{n+2+\sqrt{n^2-4}}{n+2-\sqrt{n^2-4}} + \frac{n+2-\sqrt{n^2-4}}{n+2+\sqrt{n^2-4}}$$

$$86. \sqrt{\frac{x}{x-a^2}} : \left(\frac{\sqrt{x}-\sqrt{x-a^2}}{\sqrt{x}+\sqrt{x-a^2}} - \frac{\sqrt{x}+\sqrt{x-a^2}}{\sqrt{x}-\sqrt{x-a^2}} \right)$$

$$87. \frac{x^{\frac{1}{2}}}{x+x^{\frac{1}{2}}+1} : \frac{1}{x^{1.5}-1}$$

$$88. \left(2^{\frac{3}{2}} + 27y^{\frac{3}{2}} \right) : \left[\left(\frac{1}{2} \right)^{-\frac{1}{2}} + 3y^{\frac{1}{3}} \right]$$

$$89. a^{\frac{1}{2}} - \frac{a-a^{-2}}{a^{\frac{1}{2}}-a^{-\frac{1}{2}}} + \frac{1-a^{-2}}{a^{\frac{1}{2}}+a^{-\frac{1}{2}}} + \frac{2}{a^{\frac{3}{2}}} = 0$$

$$90. \frac{a^{\frac{3}{2}}+b^{\frac{3}{2}}}{(a^2-ab)^{\frac{2}{3}}} : \frac{a^{-\frac{2}{3}}\sqrt[3]{a-b}}{a\sqrt{a-b}\sqrt{b}}$$

$a = 1.2, b = \frac{3}{5}$

$$91. \frac{\left(a^{\frac{1}{2}}+b^{\frac{1}{2}}\right)\left(a^{\frac{1}{2}}+5b^{\frac{1}{2}}\right) - \left(a^{\frac{1}{2}}+2b^{\frac{1}{2}}\right)\left(a^{\frac{1}{2}}-2b^{\frac{1}{2}}\right)}{2a+3a^{\frac{1}{2}}b^{\frac{1}{2}}}$$

$a = 54, b = 6$

$$92. \frac{\left[(a+b)^{-\frac{1}{2}}+(a-b)^{-\frac{1}{2}}\right]^{-1} + \left[(a+b)^{-\frac{1}{2}}-(a-b)^{-\frac{1}{2}}\right]^{-1}}{\left[(a+b)^{-\frac{1}{2}}+(a-b)^{-\frac{1}{2}}\right]^{-1} - \left[(a+b)^{-\frac{1}{2}}-(a-b)^{-\frac{1}{2}}\right]^{-1}}$$

$$93. a^2(1-a^2)^{-\frac{1}{2}} - \frac{1}{1+\left[a(1-a^2)^{-\frac{1}{2}}\right]^2} \frac{(1-a^2)^{\frac{1}{2}}+a^2(1-a^2)^{-\frac{1}{2}}}{1-a^2}$$

$$94. \frac{x^{\frac{5}{2}}-x^{-\frac{1}{2}}}{(x+1)(x^2+1)} - \left(x - \frac{x^3}{1+x^2}\right)^{-\frac{1}{2}} \frac{x^2\sqrt{(1+x^2)^{-1}} - \sqrt{1+x^2}}{1+x^2}$$

$$95. (R^2-x^2)^{\frac{1}{2}} - x^2(R^2-x^2)^{-\frac{1}{2}} + R^2 \frac{(R^2-x^2)^{\frac{1}{2}}+x^2(R^2-x^2)^{-\frac{1}{2}}}{(R^2-x^2)\left[1+\left(\frac{\sqrt{R^2-x^2}}{x}\right)^{-2}\right]}$$

$$96. \left(p^{\frac{1}{2}}+q^{\frac{1}{2}}\right)^{-2} (p^{-1}+q^{-1}) + \frac{2}{\left(p^{\frac{1}{2}}+q^{\frac{1}{2}}\right)^2} \left(p^{-\frac{1}{2}}+q^{-\frac{1}{2}}\right)$$

$$97. \left[\frac{(a+\sqrt[3]{a^2x}) : (x+\sqrt[3]{ax^2})-1}{\sqrt[3]{a}-\sqrt[3]{x}} - \frac{1}{\sqrt[3]{x}} \right]^6$$

$$98. \left[\frac{(\sqrt{a}+1)^2 - \frac{a-\sqrt{ax}}{\sqrt{a}-\sqrt{x}}}{(\sqrt{a}+1)^2 - a\sqrt{a+2}} \right]^{-3}$$

$$99. \left[\frac{4a-9a^{-1}}{2a^{\frac{1}{2}}-3a^{-\frac{1}{2}}} + \frac{a-4+3a^{-1}}{a^{\frac{1}{2}}-a^{-\frac{1}{2}}} \right]^2$$

$$100. \left[(a-b)\sqrt{\frac{a+b}{a-b}} + a-b \right] \times \left[(a-b) \left(\sqrt{\frac{a+b}{a-b}} - 1 \right) \right]$$

$$101. \left(\sqrt{ab} - \frac{ab}{a+\sqrt{ab}} \right) : \frac{\sqrt[4]{ab}-\sqrt{b}}{a-b}$$

$$102. \left(a+b^{\frac{3}{2}} : \sqrt{a} \right)^{\frac{2}{3}} \left(\frac{\sqrt{a}-\sqrt{b}}{\sqrt{a}} + \frac{\sqrt{b}}{\sqrt{a}-\sqrt{b}} \right)^{-\frac{2}{3}}$$

$$103. \left[\frac{1}{x^{\frac{1}{2}}-4x^{-\frac{1}{2}}} + \frac{2\sqrt[3]{x}}{x^{\frac{3}{2}}-4\sqrt[3]{x}} \right]^{-2} - \sqrt{x^2+8x+16}$$

$$104. x^3 \left[\frac{(\sqrt[4]{x}+\sqrt[4]{y})^2 + (\sqrt[4]{x}-\sqrt[4]{y})^2}{x+\sqrt{xy}} \right] \sqrt[3]{x\sqrt{x}}$$

$$105. \left(\frac{\sqrt[4]{ax^3}-\sqrt[4]{a^3x}}{\sqrt{a}-\sqrt{x}} + \frac{1+\sqrt{ax}}{\sqrt[4]{ax}} \right)^{-2} \sqrt{1+2\sqrt{\frac{a}{x}}+\frac{a}{x}}$$

$$106. \frac{(a-b^2)\sqrt{3-b}\sqrt[3]{-8b^3}}{\sqrt{2(a-b^2)^2+(2b\sqrt{2a})^2}} \frac{\sqrt{2a}-\sqrt{2c}}{\sqrt{\frac{3}{a}-\sqrt{\frac{3}{c}}}}$$

$$107. \left\{ \sqrt{1 + \left[\left(a^{\frac{2}{3}} - x^{\frac{2}{3}} \right)^{\frac{1}{2}} x^{-\frac{1}{3}} \right]^2} \right\}^{-6} - \frac{1}{a^2} \sqrt{(a^2-x^2)^2+4a^2x^2}$$

$$108. \left[(\sqrt[4]{x}-\sqrt[4]{a})^{-1} + (\sqrt[4]{x}+\sqrt[4]{a})^{-1} \right]^{-2} : \frac{x-a}{4\sqrt{x+4}\sqrt{a}}$$

$$109. \left[\frac{\sqrt[6]{a^2x}+\sqrt{x}}{\sqrt[3]{x}+\sqrt[3]{a}} + \sqrt[6]{x} \right]^3 + 4(x+1) + \left(\sqrt[3]{x\sqrt{x}}+1 \right)^2$$

$$110. \left[\frac{3x^{-\frac{1}{3}}}{x^{\frac{2}{3}}-2x^{-\frac{1}{3}}} - \frac{x^{\frac{1}{3}}}{x^{\frac{4}{3}}-x^{\frac{1}{3}}} \right]^{-1} - \left(\frac{1-2x}{3x-2} \right)^{-1}$$

$$111. (\sqrt{a})^{-2} \times \left[\sqrt{a^2+a\sqrt{a^2-b^2}} - \sqrt{a^2-a\sqrt{a^2-b^2}} \right]^2$$

$$112. \frac{\left[\frac{\sqrt[3]{x}-\sqrt[3]{a}}{\sqrt[3]{x}-\sqrt[3]{a}}^3 + 2x+a \right]^3}{\left(\frac{\sqrt[3]{x}-\sqrt[3]{a}}{\sqrt[3]{x}-\sqrt[3]{a}}^3 - x - 2a \right)} + \sqrt{(a^3+3a^2x+3ax^2+x^3)^{\frac{2}{3}}} : a$$

$$113. \left[\frac{(\sqrt{a}+\sqrt{b})^2-(2\sqrt{b})^2}{a-b} - \left(a^{\frac{1}{2}}-b^{\frac{1}{2}} \right) \left(a^{\frac{1}{2}}+b^{\frac{1}{2}} \right)^{-1} \right] : \frac{(4b)^{\frac{3}{2}}}{a^{\frac{1}{2}}+b^{\frac{1}{2}}}$$

$$114. \left(\frac{a-4b}{a+(ab)^{\frac{1}{2}}-6b} - \frac{a-9b}{a+6(ab)^{\frac{1}{2}}+9b} \right) \frac{b^{-\frac{1}{2}}}{a^{\frac{1}{2}}-3b^{\frac{1}{2}}}$$

$$115. \frac{\left(\frac{a-b}{\sqrt{a}+\sqrt{b}} \right)^3 + 2a\sqrt{a}+b\sqrt{b}}{3a^2+3b\sqrt{ab}} + \frac{\sqrt{ab}-a}{a\sqrt{a-b}\sqrt{a}}$$

$$116. \frac{(\sqrt{a}-\sqrt{b})^3+2a^2:\sqrt{a}+b\sqrt{b}}{a\sqrt{a}+b\sqrt{b}} + \frac{3\sqrt{ab}-3b}{a-b}$$

$$117. \left[\frac{1}{\left(a^{\frac{1}{2}}+b^{\frac{1}{2}} \right)^{-2}} - \left(\frac{\sqrt{a}-\sqrt{b}}{a^{\frac{3}{2}}-b^{\frac{3}{2}}} \right)^{-1} \right] (ab)^{-\frac{1}{2}}$$

$$118. \left[\frac{\frac{1}{a}-a}{\left(\sqrt[3]{a}+\sqrt[3]{\frac{1}{a}+1} \right) \left(\sqrt[3]{a}+\sqrt[3]{\frac{1}{a}-1} \right)} + \sqrt[3]{a} \right]^{-3}$$

$$119. \left[\frac{a\sqrt[3]{a}+\sqrt[3]{a^2}}{a+\sqrt[3]{a}} - \sqrt[3]{x} \right] \times \left[(\sqrt[3]{a}-\sqrt[3]{x})^2 + 3(\sqrt[3]{a}+\sqrt[3]{x})^2 \right]$$