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(1) $\frac{1}{\sqrt{10}}\left(\frac{\sqrt{10}}{\sqrt{10}}\right)$

$= \boxed{\frac{\sqrt{10}}{10}}$

(3) $\frac{5}{\sqrt{5}}\left(\frac{\sqrt{5}}{\sqrt{5}}\right)$

$= \frac{5\sqrt{5}}{5}$

$= \boxed{\sqrt{5}}$

(5) $\frac{2}{\sqrt{6}}\left(\frac{\sqrt{6}}{\sqrt{6}}\right)$

$= \frac{2\sqrt{6}}{6}$

$= \boxed{\frac{\sqrt{6}}{3}}$

(7) $\frac{28}{\sqrt{7}}\left(\frac{\sqrt{7}}{\sqrt{7}}\right)$

$= \frac{28\sqrt{7}}{7}$

$= \boxed{4\sqrt{7}}$

(9) $\sqrt{\frac{3}{5}} \cdot \frac{\sqrt{3}}{\sqrt{5}}$

$= \frac{\sqrt{3}}{\sqrt{5}}\left(\frac{\sqrt{5}}{\sqrt{5}}\right)$

$= \boxed{\frac{\sqrt{15}}{5}}$

(11) $\sqrt{\frac{7}{3}} = \frac{\sqrt{7}}{\sqrt{3}}$

$= \frac{\sqrt{7}}{\sqrt{3}}\left(\frac{\sqrt{3}}{\sqrt{3}}\right)$

$= \boxed{\frac{\sqrt{21}}{3}}$

(13) $\sqrt{\frac{x^2}{3}} = \frac{\sqrt{x^2}}{\sqrt{3}}$

$= \frac{\sqrt{x^2}}{\sqrt{3}}\left(\frac{\sqrt{3}}{\sqrt{3}}\right)$

$= \frac{\sqrt{3x^2}}{3}$

$= \boxed{\frac{x\sqrt{3}}{3}}$

(15) $\sqrt{\frac{11}{x}} = \frac{\sqrt{11}}{\sqrt{x}}$

$= \frac{\sqrt{11}}{\sqrt{x}}\left(\frac{\sqrt{x}}{\sqrt{x}}\right)$

$= \boxed{\frac{\sqrt{11x}}{x}}$

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(17) $\sqrt{\frac{x}{y}} = \frac{\sqrt{x}}{\sqrt{y}}$

$= \frac{\sqrt{x}}{\sqrt{y}}\left(\frac{\sqrt{y}}{\sqrt{y}}\right)$

$= \boxed{\frac{\sqrt{xy}}{y}}$

(19) $\sqrt{\frac{x^4}{2}}$

$= \frac{\sqrt{x^4}}{\sqrt{2}}\left(\frac{\sqrt{2}}{\sqrt{2}}\right)$

$= \frac{\sqrt{2x^4}}{2}$

$= \boxed{\frac{x^2\sqrt{2}}{2}}$

(21) $\frac{\sqrt{7}}{\sqrt{15}}\left(\frac{\sqrt{15}}{\sqrt{15}}\right)$

$= \boxed{\frac{\sqrt{35}}{5}}$

(23) $\frac{\sqrt{3x}}{\sqrt{14}}\left(\frac{\sqrt{14}}{\sqrt{14}}\right)$

$= \boxed{\frac{\sqrt{42x}}{14}}$

(25) $\frac{1}{\sqrt{20}}\left(\frac{\sqrt{20}}{\sqrt{20}}\right)$

$= \frac{\sqrt{20}}{20}$

$= \frac{\sqrt{4\cdot 5}}{20}$

$= \frac{2\sqrt{5}}{2\cdot 10}$

$= \boxed{\frac{\sqrt{5}}{10}}$

(27) $\frac{12}{\sqrt{32}}\left(\frac{\sqrt{32}}{\sqrt{32}}\right)$

$= \frac{12\sqrt{32}}{32}$

$= \frac{3\sqrt{32}}{8}$

$= \frac{3\sqrt{16\cdot 2}}{8}$

$= \frac{3\cdot 4\sqrt{2}}{2\cdot 4}$

$= \boxed{\frac{3\sqrt{2}}{2}}$

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(29) $\frac{15}{\sqrt{12}}\left(\frac{\sqrt{12}}{\sqrt{12}}\right)$

$= \frac{15\sqrt{12}}{12}$

$= \frac{5\sqrt{4 \cdot 3}}{4}$

$= \frac{5 \cdot 2\sqrt{3}}{2 \cdot 2}$

$= \boxed{\frac{5\sqrt{3}}{2}}$

(31) $\frac{5}{\sqrt{18}}\left(\frac{\sqrt{18}}{\sqrt{18}}\right)$

$= \frac{5\sqrt{18}}{18}$

$= \frac{5\sqrt{9 \cdot 2}}{18}$

$= \frac{5 \cdot 3\sqrt{2}}{6 \cdot 3}$

$= \frac{5\sqrt{2}}{6}$

(33) $\sqrt{\frac{x}{32}} = \frac{\sqrt{x}}{\sqrt{32}}$

$= \frac{\sqrt{x}}{\sqrt{32}}\left(\frac{\sqrt{32}}{\sqrt{32}}\right)$

$= \frac{\sqrt{32x}}{32}$

$= \frac{\sqrt{16 \cdot 2x}}{32}$

$= \frac{4\sqrt{2x}}{4 \cdot 8}$

$= \boxed{\frac{\sqrt{2x}}{8}}$

(35) $\sqrt{\frac{1}{45}} = \frac{1}{\sqrt{45}}$

$= \frac{1}{\sqrt{45}}\left(\frac{\sqrt{45}}{\sqrt{45}}\right)$

$= \frac{\sqrt{45}}{45}$

$= \frac{\sqrt{9 \cdot 5}}{45}$

$= \frac{3\sqrt{5}}{3 \cdot 15}$

$= \boxed{\frac{\sqrt{5}}{15}}$

(37) $\frac{\sqrt{7}}{\sqrt{12}} = \frac{\sqrt{7}}{\sqrt{12}}\left(\frac{\sqrt{12}}{\sqrt{12}}\right)$

$= \frac{\sqrt{7 \cdot 3 \cdot 4}}{12}$

$= \frac{2\sqrt{21}}{2 \cdot 6}$

$= \boxed{\frac{\sqrt{21}}{6}}$

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(39) $\frac{8x}{\sqrt{8}}\left(\frac{\sqrt{8}}{\sqrt{8}}\right)$

$= \frac{8x\sqrt{8}}{8}$

$= x\sqrt{8}$

$= x\sqrt{4 \cdot 2}$

$= \boxed{2x\sqrt{2}}$

(41) $\frac{\sqrt{7y}}{\sqrt{8}}\left(\frac{\sqrt{8}}{\sqrt{8}}\right)$

$= \frac{\sqrt{7 \cdot 2 \cdot 4y}}{8}$

$= \frac{2\sqrt{14y}}{2 \cdot 4}$

$= \boxed{\frac{\sqrt{14y}}{4}}$

(43) $\sqrt{\frac{7x}{12}} = \frac{\sqrt{7x}}{\sqrt{12}}$

$= \frac{\sqrt{7x}}{\sqrt{12}}\left(\frac{\sqrt{12}}{\sqrt{12}}\right)$

$= \frac{\sqrt{7 \cdot 3 \cdot 4x}}{12}$

$= \frac{2\sqrt{21x}}{2 \cdot 6}$

$= \boxed{\frac{\sqrt{21x}}{6}}$

(45) $\sqrt{\frac{45}{x}} = \frac{\sqrt{45}}{\sqrt{x}}$

$= \frac{\sqrt{45}}{\sqrt{x}}\left(\frac{\sqrt{x}}{\sqrt{x}}\right)$

$= \frac{\sqrt{9 \cdot 5x}}{x}$

$= \boxed{\frac{3\sqrt{5x}}{x}}$

(47) $\frac{5}{\sqrt{x^3}}\left(\frac{\sqrt{x^3}}{\sqrt{x^3}}\right)$

$= \boxed{\frac{5\sqrt{x^3}}{x^3}}$

(49) $\sqrt{\frac{27}{y^3}} = \frac{\sqrt{27}}{\sqrt{y^3}}$

$= \frac{\sqrt{27}}{\sqrt{y^3}}\left(\frac{\sqrt{y^3}}{\sqrt{y^3}}\right)$

$= \frac{\sqrt{9y^2 \cdot 3y}}{y^3}$

$= \frac{3y\sqrt{3y}}{y^3}$

$= \boxed{\frac{3\sqrt{3y}}{y^2}}$

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(51) $\frac{\sqrt{50x^2}}{\sqrt{12y^3}}\left(\frac{\sqrt{12y^3}}{\sqrt{12y^3}}\right)$

$= \frac{\sqrt{25 \cdot 2 \cdot 4 \cdot 3 x^2 y^2 \cdot y}}{12y^3}$

$= \frac{5 \cdot 2 \cdot x \cdot y \sqrt{6y}}{2 \cdot 6 y^3}$

$= \boxed{\frac{5x\sqrt{6y}}{6y^2}}$

(53) $\frac{1}{4+\sqrt{3}}\left(\frac{4-\sqrt{3}}{4-\sqrt{3}}\right)$

$= \frac{4-\sqrt{3}}{16-3}$

$= \boxed{\frac{4-\sqrt{3}}{13}}$

(55) $\frac{9}{2-\sqrt{7}}\left(\frac{2+\sqrt{7}}{2+\sqrt{7}}\right)$

$= \frac{9(2+\sqrt{7})}{4-7}$

$= \frac{9(2+\sqrt{7})}{-3}$

$= \frac{3}{-3}(2+\sqrt{7})$

$= \boxed{-6-3\sqrt{7}}$

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(57) $\frac{16}{\sqrt{11}+3} \cdot \frac{(\sqrt{11}-3)}{(\sqrt{11}-3)}$

$= \frac{16(\sqrt{11}-3)}{11-9}$

$= \frac{16(\sqrt{11}-3)}{2}$

$= 8(\sqrt{11}-3)$

$= \boxed{8\sqrt{11}-24}$

(59) $\frac{18}{3-\sqrt{3}} \left(\frac{3+\sqrt{3}}{3+\sqrt{3}}\right)$

$= \frac{18(3+\sqrt{3})}{9-3}$

$= \frac{18(3+\sqrt{3})}{6}$

$= 3(3+\sqrt{3})$

$= \boxed{9+3\sqrt{3}}$

(61) $\frac{\sqrt{2}}{\sqrt{2}+1} \left(\frac{\sqrt{2}-1}{\sqrt{2}-1}\right)$

$= \frac{2-\sqrt{2}}{2-1}$

$= \boxed{2-\sqrt{2}}$

(63) $\frac{\sqrt{10}}{\sqrt{10}-\sqrt{7}} \left(\frac{\sqrt{10}+\sqrt{7}}{\sqrt{10}+\sqrt{7}}\right)$

$= \frac{10+\sqrt{70}}{10-7}$

$= \boxed{\frac{10+\sqrt{70}}{3}}$

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(65) $\frac{6}{\sqrt{6}+\sqrt{3}}\left(\frac{\sqrt{6}-\sqrt{3}}{\sqrt{6}-\sqrt{3}}\right)$

$= \frac{6(\sqrt{6}-\sqrt{3})}{6-3}$

$= \frac{6(\sqrt{6}-\sqrt{3})}{3}$

$= 2(\sqrt{6}-\sqrt{3})$

$= \boxed{2\sqrt{6}-2\sqrt{3}}$

(67) $\frac{2}{\sqrt{5}-\sqrt{3}}\left(\frac{\sqrt{5}+\sqrt{3}}{\sqrt{5}+\sqrt{3}}\right)$

$= \frac{2(\sqrt{5}+\sqrt{3})}{5-3}$

$= \frac{2(\sqrt{5}+\sqrt{3})}{2}$

$= \boxed{\sqrt{5}+\sqrt{3}}$

(69) $\frac{2}{4+\sqrt{x}}\left(\frac{4-\sqrt{x}}{4-\sqrt{x}}\right)$

$= \frac{8-2\sqrt{x}}{16-x}$

(71) $\frac{2\sqrt{3}}{\sqrt{15}+2}\left(\frac{\sqrt{15}-2}{\sqrt{15}-2}\right)$

$= \frac{2\sqrt{45}-4\sqrt{3}}{15-4}$

$= \frac{2\sqrt{9\cdot 5}-4\sqrt{3}}{11}$

$= \boxed{\frac{6\sqrt{5}-4\sqrt{3}}{11}}$

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(73) $\dfrac{\sqrt{5}+\sqrt{2}}{\sqrt{5}-\sqrt{2}} \cdot \dfrac{(\sqrt{5}+\sqrt{2})}{(\sqrt{5}+\sqrt{2})}$

$= \dfrac{5+2\sqrt{10}+2}{5-2}$

$= \boxed{\dfrac{7+2\sqrt{10}}{3}}$

(75) $\sqrt{\dfrac{36x^2y^5}{2x^3y}}$

$= \sqrt{\dfrac{36x^2y^5}{2x^3y}}$

$= \sqrt{\dfrac{18y^4}{x}}$

$= \dfrac{\sqrt{9y^{4\cdot 2}}}{\sqrt{x}} \left(\dfrac{\sqrt{x}}{\sqrt{x}}\right)$

$= \dfrac{3y^2\sqrt{2x}}{x}$

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(77) $\dfrac{2}{\sqrt{x+2}-\sqrt{x}}\left(\dfrac{\sqrt{x+2}+\sqrt{x}}{\sqrt{x+2}+\sqrt{x}}\right)$

$= \dfrac{2\left(\sqrt{x+2}+\sqrt{x}\right)}{x+2-x}$

$= \dfrac{2\left(\sqrt{x+2}+\sqrt{x}\right)}{2}$

$= \boxed{\sqrt{x+2}+\sqrt{x}}$

(79) $\dfrac{\sqrt{2}+\sqrt{3}}{\sqrt{2}}\cdot\dfrac{\sqrt{3}}{\sqrt{3}}$

$= \dfrac{\sqrt{2}}{\sqrt{3}}\left(\dfrac{\sqrt{2}}{\sqrt{2}}\right)+\dfrac{\sqrt{3}}{\sqrt{2}}\left(\dfrac{\sqrt{3}}{\sqrt{3}}\right)$

$= \dfrac{2}{\sqrt{6}}+\dfrac{3}{\sqrt{6}}$

$= \dfrac{5}{\sqrt{6}}$

$= \dfrac{5}{\sqrt{6}}\left(\dfrac{\sqrt{6}}{\sqrt{6}}\right)$

$= \boxed{\dfrac{5\sqrt{6}}{6}}$

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(81) $\dfrac{2x+4-2h}{\sqrt{x+2-h}}\left(\dfrac{\sqrt{x+2-h}}{\sqrt{x+2-h}}\right)$

$= \dfrac{(2x+4-2h)\sqrt{x+2-h}}{x+2-h}$

$= \dfrac{2(x+2-h)\sqrt{x+2-h}}{(x+2-h)}$

$= \boxed{2\sqrt{x+2-h}}$