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$$a - \frac{a}{\left(10 - \frac{a}{10-a}\right)} \cdot \frac{(10-a)}{(10-a)}$$

$$= a - \frac{a \cdot (10-a)}{10 \cdot (10-a) - \frac{a}{10-a} \cdot \cancel{(10-a)}}$$

$$= a - \frac{10a - a^2}{100 - 10a - a}$$

$$= \frac{a}{1} - \frac{10a - a^2}{100 - 11a}$$

$$= \frac{a}{1} \cdot \frac{(100 - 11a)}{100 - 11a} - \frac{10a - a^2}{100 - 11a}$$

$$= \frac{a \cdot (100 - 11a) - (10a - a^2)}{100 - 11a}$$

$$= \frac{100a - 11a^2 - 10a + a^2}{100 - 11a} = \frac{90a - 10a^2}{100 - 11a}$$

$$= \frac{10a(9-a)}{100-11a} //$$

$$(36) \quad (x^2 y^{-\frac{1}{2}})^{-2} \cdot (x^{-8} y^2)^{\frac{1}{4}}$$

$$= x^{2 \cdot (-2)} y^{-\frac{1}{2} \cdot (-2)} \cdot x^{-8 \cdot \frac{1}{4}} y^{2 \cdot \frac{1}{4}}$$

$$= x^{-4} \cdot y^1 \cdot x^{-2} \cdot y^{\frac{1}{2}}$$

$$= x^{-4+(-2)} \cdot y^{1+\frac{1}{2}}$$

$$= x^{-6} y^{\frac{3}{2}} = \frac{y^{\frac{3}{2}}}{x^6}$$

$$(46) \quad (49 m^{-2} n^4)^{\frac{1}{2}} \cdot (m \cdot n^{\frac{1}{2}})$$

$$= 49^{-\frac{1}{2}} \cdot m^{-2 \cdot (-\frac{1}{2})} \cdot n^{4 \cdot (-\frac{1}{2})} \cdot m \cdot n^{\frac{1}{2}}$$

$$= 7^{2 \cdot (-\frac{1}{2})} \cdot m^1 \cdot n^{-2} \cdot m \cdot n^{\frac{1}{2}}$$

$$= 7^{-1} \cdot m^{1+1} \cdot n^{-2+\frac{1}{2}}$$

$$= 7^{-1} \cdot m^2 \cdot n^{-\frac{3}{2}}$$

$$= \frac{m^2}{7 \cdot n^{\frac{3}{2}}}$$

$$(44) \quad (x^{-7/4})^{28} = x^{-\frac{7}{4} \cdot 28} = x^{-49} = \frac{1}{x^{49}}$$

$$(55) \quad 2\sqrt{10xy} \cdot 4\sqrt{5x^2y} \cdot 3\sqrt{8xy^2}$$

$$= 24\sqrt{10xy \cdot 5x^2y \cdot 8xy^2}$$

$$= 24\sqrt{400x^4y^4}$$

$$= 24\sqrt{400}\sqrt{x^4}\sqrt{y^4}$$

$$= 24\sqrt{20^2}\sqrt{x^4}\sqrt{y^4}$$

$$= 24 \cdot 20 \cdot x^2 \cdot y^2$$

$$= 480x^2y^2$$

$$x^{\frac{w}{4}} = \sqrt[4]{x^w}$$

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$$\frac{2}{x-2} = \frac{5}{2x+6}$$

$$2 \cdot (2x+6) = 5 \cdot (x-2)$$

$$4x+12 = 5x-10$$

$$-4x$$

$$-4x$$

$$12 = x - 10$$

$$10$$

$$10$$

$$22 = x$$