1. $\frac{\left(27a^{3}b^{6}\right)^{\frac{1}{3}}}{\left(81a^{8}b^{-4}\right)^{\frac{1}{4}}}$
2. $\sqrt[3]{\frac{27x^{6}y^{3}}{2z^{2}}}$
3. $x\sqrt[4]{5xy^{8}}$ + $y\sqrt[4]{405x^{5}y^{4}}$ + $y^{2}\sqrt[4]{80x^{5}}$
4. $\frac{5\sqrt{x}-1}{2+ \sqrt{x}}$
5. $\left(\sqrt{5}- \sqrt{2}\right)\left(3\sqrt{5}+2\sqrt{2}\right)$
6. Solve for x.

$$2+ \frac{5}{r-1}= \frac{12}{\left(r-1\right)^{2}}$$

1. Find the equation with the given solutions.

$$x=\frac{-4\pm \sqrt{2}}{3}$$

1. Solve for x.

$$\left(a-3\right)-9\sqrt{a-3}+20=0$$

1. Graph $h\left(x\right)=2∙3^{x+2}$
2. Find the inverse of $f\left(x\right)= \sqrt[3]{x}-3$, then graph both the function and its inverse below.
3. Solve.

$log\_{8}\sqrt{x}$ + $log\_{8}\sqrt{5x+2}$ = $\frac{2}{3}$

1. Simplify.

$$log\_{\frac{1}{2}}\left(log\_{3}81\right)$$