1. Use radical notation to rewrite each expression. Simplify if possible.

$(-32)^{\frac{1}{5}} =$

$(xy)^{\frac{1}{4}} =$

$25^{\frac{3}{2}} =$

2. Rewrite each expression with rational exponents.

$\sqrt{17} =$ $\sqrt[7]{x^4} =$ $\left(\sqrt{13x^2y}\right)^5 =$

3. Rewrite each expression with a positive rational exponent. Simplify if possible.

$125^{-\frac{1}{3}} =$ $32^{-\frac{4}{5}} =$

$7xz^{-\frac{1}{4}} =$ $(3xy)^{-\frac{2}{3}} =$

4. Simplify (assume all variables represent positive numbers).

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

$\left(32^{\frac{2}{3}}\right)^{\frac{3}{5}} =$

$\dfrac{x^{\frac{1}{4}}}{x^{\frac{3}{5}}} =$

$\left(y^{-\frac{3}{4}}\right)^{\frac{1}{6}} =$

$\left(8x^{\frac{1}{4}}y^{-\frac{2}{5}}\right)^{\frac{1}{3}} =$

5. Simplify (assume all variables represent positive numbers). Write answers in radical notation.

$\sqrt[5]{x^{15}y^{20}} =$

$\left(\sqrt[8]{2a}\right)^6 =$

$\sqrt[5]{\sqrt{x}} =$

$\dfrac{\sqrt[4]{a^3b^3}}{\sqrt{ab}} =$

Q: What is harder to catch the faster you run?