

PA

Key

Math 092
Quiz 7.2

1) Write an equivalent statement using radical notation simplify if possible:

$$\begin{aligned}(25x^4)^{\frac{3}{2}} &= (5^2 x^4)^{\frac{3}{2}} \\ &= 5^{2(\frac{3}{2})} x^{4(\frac{3}{2})} \\ &= 5^3 x^6 \\ &= 125x^6\end{aligned}$$

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2) Write an equivalent statement using exponential notation:

$$(\sqrt{3mn})^3 = (3mn)^{3/2}$$

/3

3) Write an equivalent expression with positive exponents and if possible, simplify.

$$\frac{1}{a^{-\frac{5}{7}}} = \boxed{a^{\frac{5}{7}}}$$

/6

4) Use rational exponents to simplify:

$$\left(\sqrt{ab}\right)^6 = (ab)^{2/6} = \boxed{(ab)^{1/3}}$$

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