QT Tough Questions - Fractional Indices

1. Given that $3^{-n} = 0.25$

Find the value of $(3^n)^2$

$$3^{-n} = \frac{1}{4}$$

$$3^n = 4$$

$$(4)^2 = \underline{\underline{16}}$$

2. Given that $5^{-n} = 0.25$

Find the value of $(5^n)^3$

$$5^{-n} = \frac{1}{4}$$

$$5^n = 4$$

$$(4)^3 = \underline{\underline{64}}.$$