Evaluating Rational Exponents

Evaluate the following:

$$16^{\frac{1}{4}}$$ $$27^{\frac{1}{3}}$$

Evaluate the following:

$$32^{\frac{3}{5}}$$ $$64^{\frac{-2}{3}}$$

Solve the following equations

$$5x^3 = -40 \qquad\qquad x^4 - 25 = 600 \qquad\qquad (x-3)^3 - 18 = 46$$