1D Negative & Fractional Indices

1. Simplify

a) $\dfrac{x^3}{x^{-3}}$

b) $x^{\frac{1}{2}} \times x^{\frac{3}{2}}$

c) $(x^3)^{\frac{2}{3}}$

d) $\sqrt[3]{125x^6}$

e) $\dfrac{2x^2 - x}{x^5}$

2. Evaluate (work out the value of)

a) $9^{\frac{1}{2}}$

b) $64^{\frac{1}{3}}$

c) $49^{\frac{3}{2}}$

d) $25^{-\frac{3}{2}}$

3. Given that $y = \frac{1}{16}x^2$, express $y^{\frac{1}{2}}$ in the form kx^n where k and n are constants

4. Given that $y = \frac{1}{16}x^2$, express $4y^{-1}$ in the form kx^n where k and n are constants