



Work out

$$\left(\frac{64}{729}\right)^{-\frac{2}{3}}$$

$$\sqrt[3]{64} = 4 \quad 4^2 = 16$$

$$\sqrt[3]{729} = 9 \quad 9^2 = 81$$

$$\frac{81}{16}$$

The cylinder has a surface area of $972\pi \text{ cm}^2$

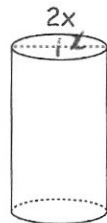
Find x

$$12\pi x^2 = 972\pi$$

$$12x^2 = 972$$

$$x^2 = 81$$

$$x = 9 \text{ cm}$$



$$\text{top: } \pi x^2$$

$$\text{bottom: } \pi x^2$$

$$\text{Curve: } 2\pi x \times 5x$$

$$= 10\pi x^2$$

$$\text{total } 12\pi x^2$$

Simplify

$$\frac{x-1}{2x^3} + \frac{x+4}{x^4} \div \frac{4x+16}{x}$$

$$\frac{x-1}{2x^3} + \frac{x+4}{x^4} \times \frac{x}{4(x+4)}$$

$$\frac{x-1}{2x^3} + \frac{1}{4x^3}$$

$$\frac{2x-2}{4x^3} + \frac{1}{4x^3} = \frac{2x-1}{4x^3}$$

In bag 1, there are 3 apples and 1 orange.

In bag 2, there are 2 apples and 3 oranges.

A piece of fruit is picked at random from bag 1 and placed into bag 2.

Then a piece of fruit is picked at random from bag 2 and placed into bag 1.

Find the probability that bag 1 **does not** contain 3 apples and 1 orange.

$$P(OA) = \frac{1}{4} \times \frac{2}{6} = \frac{2}{24}$$

$$P(AO) = \frac{3}{4} \times \frac{3}{6} = \frac{9}{24}$$

$$\frac{11}{24}$$