



Factorise completely

$$100x - x^3$$

ξ is the set of even numbers from 1 to 400

O = odd numbers

P = prime numbers

C = cube numbers

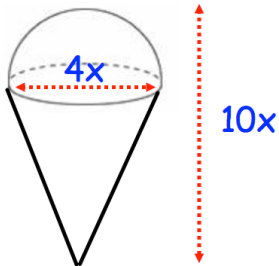
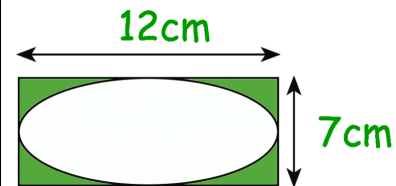
S = square numbers

Find how many numbers are in $O \cup P \cup C \cup S$

The area of an ellipse, width a and height b , is given by

$$A = \frac{\pi ab}{4}$$

Find the shaded area.



A solid is made by putting a hemisphere on top of a cone. Find an expression for the volume in terms of x .

The coefficient of the x^2 in the expansion of $(x + a)(x + 3)(2x - 3)$ is 9.

Find a