



If $f(x) = 4x^{\frac{2}{3}} - x^{-1}$
 find $f(8)$

$$x^{-1} = \frac{1}{x}$$

$$8^{\frac{2}{3}} = 4$$

$$4 \times 4 - \frac{1}{8} = 16 - \frac{1}{8}$$

$$15 \frac{7}{8}$$

A group of scientists want to estimate the number of eels in a lake. They catch and ring 200 eels. They return the 200 eels to the lake. They then catch 500 eels. Of these, 18 are ringed.

Estimate the number of eels in the lake.

$$\frac{200}{N} = \frac{18}{500}$$

$$18N = 100000$$

$$N = 5555.5$$

5556

(or 5555)

The first 5 triangular numbers are

$$an^2 + bn + c$$

1, 3, 6, 10, 15
2 3 4 5
1 1 1

$$a = \frac{1}{2} \quad b = \frac{1}{2} \quad c = 0$$

by considering the nth term, find the 100th triangular number

$$\frac{1}{2}n^2 + \frac{1}{2}n$$

$$\frac{1}{2} \times 100^2 + \frac{1}{2} \times 100$$

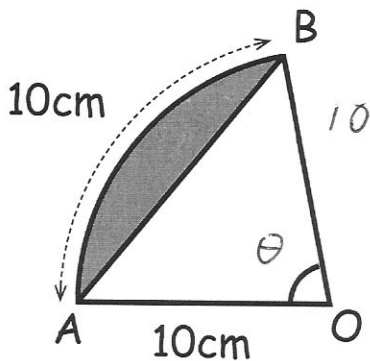
5050

OAB is a sector of a circle, centre O. OA is 10cm and arc AB is also 10cm.

Find the size of angle AOB

$$\frac{\theta}{360} \times \pi \times 20 = 10$$

$$\theta = 57.296^\circ$$



Find the area of the shaded segment.

Sector $\frac{57.29 \dots}{360} \times \pi \times 10^2 = 50 \text{ cm}^2$

~~area of triangle~~ $\frac{1}{2} \times 10 \times 10 \times \sin 57.29 \dots = 42.07 \dots$

segment : 7.926 cm^2