

29th March

Higher 5-a-day



Corbettmaths

The force, F , between two magnets is inversely proportional to the square of the distance, d , between them.

When $F = 4$, $d = 3$.

Express F in terms of d .

$$F \propto \frac{1}{d^2}$$

$$F = \frac{k}{d^2}$$

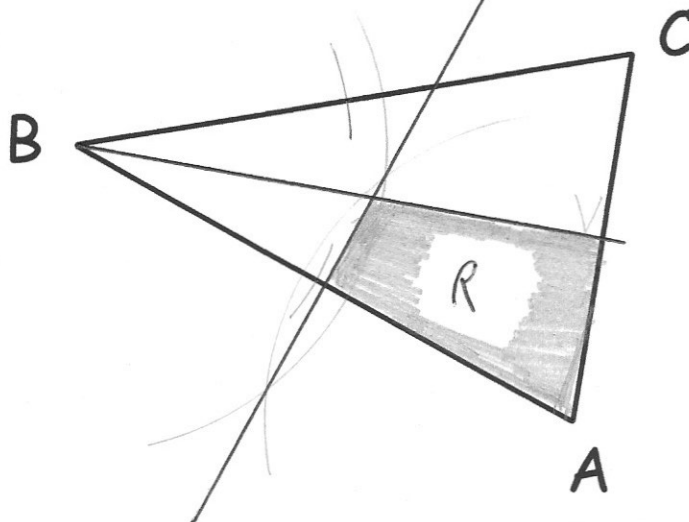
$$4 = \frac{k}{3^2}$$

$$4 = \frac{k}{9}$$

$$k = 36$$

$$F = \frac{36}{d^2}$$

ABC is a garden. A tree is planted closer to wall AB than wall BC. The tree is closer to point A than point B. Show the region of possible locations that the tree can be planted



Two spheres have volumes in the ratio 8:125

$$2:5$$

The radius of the larger sphere is 30cm.

What is the radius of the smaller sphere?

$$30 \div 5 = 6$$

$$6 \times 2 = 12 \text{ cm}$$

Simplify

$$\frac{x+9}{4x} + \frac{7}{3x}$$

$$\frac{3x+27}{12x} + \frac{28}{12x}$$

$$\frac{3x+55}{12x}$$