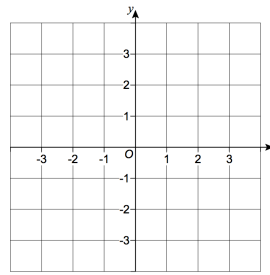


**22nd December**

Corbettmaths

Sketch  $x^2 + y^2 = 4$ 

Solve the inequality

$$x^2 + 3x \leq 10$$

A bag contains 8 red sweets and 4 green sweets.

Kelly removes 3 sweets, one at a time, without replacement.

Find the probability that she does not choose 3 sweets that are the same colour.

Ship B is 7km, on a bearing of  $035^\circ$ , from Ship A. Ship C is located on a bearing of  $070^\circ$  from Ship A and on a bearing of  $135^\circ$  from Ship B.

Work out the distance of Ship C from Ship B.

The curve

$$y = a + b^x$$

passes through the points (1, 5) and (2, 17) where  $a > 0$  and  $b > 0$ .

Find a and b