



① There are only blue cubes, yellow cubes and green cubes in a bag.

The are twice as many blue cubes as yellow cubes and five times as many green cubes as blue cubes.

Jane takes at random a cube from the bag. Work out the probability that Jane takes a yellow cube.

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Answer

(3)

② $p^3 \times p^x = p^9$ $(6^2)^y = 6^{14}$ $1000^a \times 10000^b$ can be written in the form 10^w .

(a) Find the value of x . (b) Find the value of y , (c) Show that $w = 3a + 4b$

Answer

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(3)

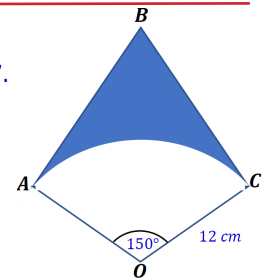
③ OAC is a sector of a circle, centre O , radius 12 cm.

BA is the tangent to the circle at point A .

BC is the tangent to the circle at point C .

Angle $AOC = 150^\circ$.

Calculate the area of the shaded region. Give your answer to 3 significant figures



Answer

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(5)