



Work out

$$\left(2\frac{7}{9}\right)^{-\frac{1}{2}}$$

$$2\frac{7}{9} = \frac{25}{9}$$

$$\left(\frac{25}{9}\right)^{-\frac{1}{2}} = \frac{3}{5}$$

There are 25 beads in a bag.  
There are only pink and green beads in the bag.

Jonah picks two beads at random, without replacement.

The probability that he picks two pink beads is 0.4

Work out the probability that Jonah picks two green beads.

$$\frac{x}{25} \times \frac{x-1}{24} = \frac{2}{5}$$

16 pink  
9 green

$$x(x-1) = 240$$

$$x^2 - x - 240 = 0$$

$$(x-16)(x+15) = 0$$

$$\frac{9}{25} \times \frac{8}{24} = \frac{3}{25}$$

$$x=16$$

$$w = 7^4 = 2401$$

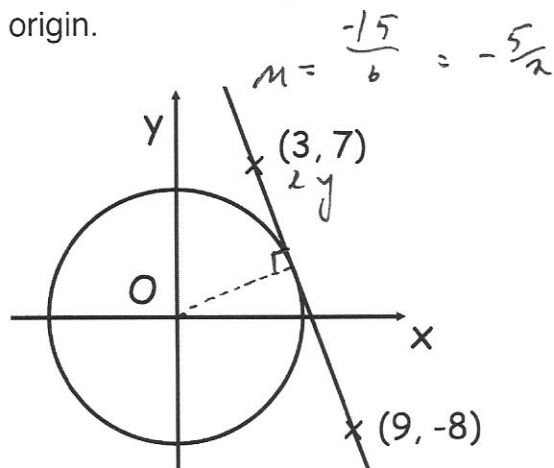
Solve

$$2w^{\frac{1}{4}} - 14 = 0$$

$$2w^{\frac{1}{4}} = 14$$

$$w^{\frac{1}{4}} = 7$$

The circle is drawn, with centre the origin.



A tangent to the circle passes through the points (3, 7) and (9, -8)

Find the equation of the tangent

$$y = -\frac{5}{2}x + c$$

$$7 = -\frac{15}{2} + c \quad c = \frac{29}{2}$$

$$y = -\frac{5}{2}x + \frac{29}{2}$$

Find the equation of the circle

$$\frac{2}{5}x = -\frac{5}{2}x + \frac{29}{2} \quad \times 10$$

$$4x = -25x + 145$$

$$x = 5 \quad y = 2$$

$$\sqrt{5^2 + 2^2} = \sqrt{29}$$

$$x^2 + y^2 = 29$$