12th July **Higher Plus 5-a-day**

Corbettmaths

The curve A with equation $y = f(x)$ is transformed to curve B with equation $y = f(-x) + 1$

The point on A with coordinates (4, 5) is mapped to the point P on B

Find the coordinates of P

$(-4, 6)$

The straight line L has the equation $4y = 3x + 5$ $y = \frac{3}{4}x + \frac{5}{4}$ x y

The point A has coordinates (2, –8)

Find an equation of the straight line that is perpendicular to L and passing through A

$y = -\frac{4}{3}x + c$

$-8 = -\frac{8}{3} + c$

$c = -\frac{16}{3}$

$y = -\frac{4}{3}x - \frac{16}{3}$

$\frac{5}{10} \times \frac{4}{9} \times \frac{3}{8}$

$= \frac{5}{36}$

2 2 2 3 4 5 6 7 7 9

1 2 3 4 5

Tia picks three cards at random, without replacement. She adds the three numbers together to get a score.

EEO
EOE
OEE

$3 \times \frac{5}{36} = \frac{15}{36}$

Find the probability that the score is an odd number.

$P(ooo) = \frac{5}{10} \times \frac{4}{9} \times \frac{3}{8} = \frac{1}{12}$

$\frac{15}{36} + \frac{1}{12} = \frac{1}{2}$

OA = 13cm and the arc AB = 28cm

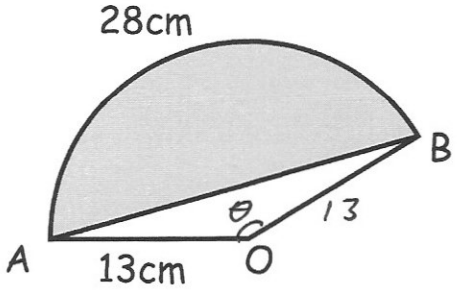
Find the area of the shaded segment

$\frac{\theta}{360} \times \pi \times 26 = 28$ $\theta = 123.4063$

Sector : $\frac{123.4063}{360} \times \pi \times 13^2 = 182$

Area $\triangle$: $\frac{1}{2} \times 13 \times 13 \times \sin 123.4... = 70.539...$

Segment : $111.46\ cm^2$



Solve

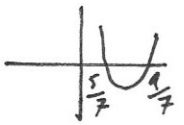
$(1 - x)^2 > \frac{4}{49}$

$x^2 - 2x + 1 > \frac{4}{49}$

$x^2 - 2x + \frac{45}{49} > 0$

$49x^2 - 98x + 45 > 0$

$(7x - 5)(7x - 9)$



$x < \frac{5}{7}$ or $x > \frac{9}{7}$