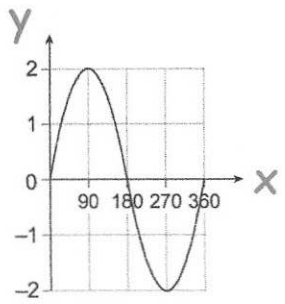
Name: _____ 5-a-day Higher Plus

13th August

Corbettmaths



Write down the equation of the curve shown

$y = 2\sin x^\circ$

$f(x) = x^2 + 3x + 8$

show that

$f(x+1) - f(x) = 2x + 4$

$f(x+1) = (x+1)^2 + 3(x+1) + 8$

$f(x+1) = x^2 + 2x + 1 + 3x + 3 + 8 = x^2 + 5x + 12$

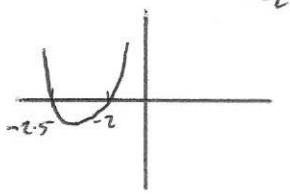
$x^2 + 5x + 12 - (x^2 + 3x + 8)$

$= 2x + 4$ QED

Solve the inequality
$2x^2 + 9x + 10 > 0$

$(2x+5)(x+2)$

-2.5 -2



$x < -2.5$
or
$x > -2$

Hannah has some coins. (12)

Hannah has to pay £2.40 for a coffee. She picks 3 coins at random, without replacement, from her pocket.

Work out the probability that she has chosen enough money to pay for the coffee.

£1, £1, £1 $\frac{4}{12} \times \frac{3}{11} \times \frac{2}{10} = \frac{1}{55}$
or
£1, £1, 50p $\frac{4}{12} \times \frac{3}{11} \times \frac{1}{10} = \frac{1}{110}$
or
£1, 50p, £1 $\frac{1}{110}$
or
50p, £1, £1 $\frac{1}{110}$

$\frac{1}{22}$