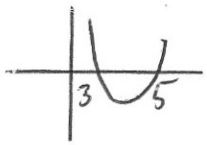
24th August **Higher Plus 5-a-day**

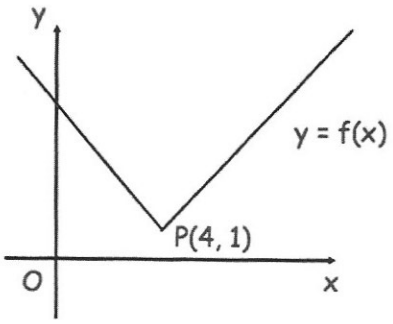
Corbettmaths

Solve $x^2 - 8x + 15 \leq 0$

$(x-5)(x-3)$



$3 \leq x \leq 5$



What are the coordinates of the new position of P when the graph y = f(x) is transformed to the graph of y = –f(x)?

$(4, -1)$

Rosie wants to estimate the number of fish that live in a lake.
On Friday, she caught 60 fish and tagged them.
On Sunday, she caught 80 fish and Rosie found that 5 had been tagged.

Work out an estimate for the number of fish in the lake.

$\frac{60}{N} = \frac{5}{80}$

$5N = 4800$

$N = 960$

The cost of two TVs are in the ratio x:y

When both prices are increased by £40, the ratio is 13:20

When both prices are decreased by £100, the ratio is 8:15

Find the values of x and y

$\frac{y+40}{x+40} = \frac{20}{13}$

$13y + 520 = 20x + 800$

$13y = 20x + 280$

$\frac{y-100}{x-100} = \frac{15}{8}$

$8y - 800 = 15x - 1500$

$8y + 700 = 15x$

$x = \frac{8y}{15} + \frac{700}{15}$

$13y = 20\left(\frac{8y}{15} + \frac{700}{15}\right) + 280$

$13y = \frac{32}{3}y + \frac{2800}{3} + 280$

$39y = 32y + 2800 + 840$

$7y = 3640 \quad y = 520$

$x = \frac{8 \times 520}{15} + \frac{700}{15} = 324$

$x = £324$

$y = £520$