Problem Solving GCSE Questions 2
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(1) Bob is making cakes. To make 4 cakes he needs 240g of flour, 2 eggs, 360g of sugar and 180g of butter. At home he has half a kilo of flour, half a dozen eggs, 0.3kg of butter and twice as much sugar. What is the maximum number of cakes he can make?

(2) A circular lawn has a diameter of 123.4m. Farmer Fred wants to grow grass seed on the lawn. He can buy boxes of grass seed that cover 1000 square meters of lawn for £3.27 each. Given that he is offered a 15% discount if he purchases more than 10 boxes, find the total cost of grassing the lawn.

(3) Sue draws the square shown below.

9*cm*

Sue then draws the largest circle **inside** the square that she possibly can and colours it in black. Find the area of the square that is still white after she has drawn the circle.

(4) Jane bought her car on the 1st of February 2012. On the 1st of December 2012 she signs up to a trade in plan. All cars with more than 45000 miles on the clock can be traded in. When Sue checks the car on the 1st of December 2012 she sees that it has 11467 miles on the clock. Given that she does 1273 miles a month on average, find how old her car will be when she is eligible to trade it in.
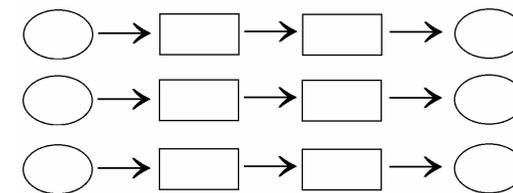
(5) Electricals R Us is holding a sale. A Fridge was originally put in a 10% sale and didn't sell. The fridge has been discounted **by a further** 15%. Given that the latest sale price is £417.69, find the **original** price of the fridge before it was discounted twice.

(6) Given that $y = 180 - x$, mark all of the angles below that have a value of y.
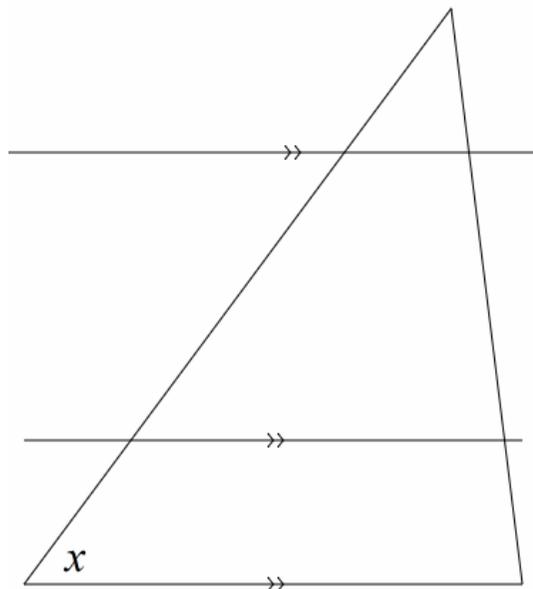
(7) Ken is sending some Christmas Cards. He buys 24 stamps. The stamps are a mixture of 1st and 2nd class. A 1st class stamp is 60p and a 2nd class stamp is 50p. Given that he spends £13 in total on the stamps, find out how many 1st class and how many 2nd class stamps he bought.

(8) Complete the 3 function machines using the 12 options below:

x

$2x^2$

$\times x$

$x^2 + 3$

$-x^2$

$x^2 - 5x$

$+3$

x

$\times 3$

-4

$3x - 4$

-5