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Applied Arithmetic  
Past Questions  
Mrs. A. Gilleran ©

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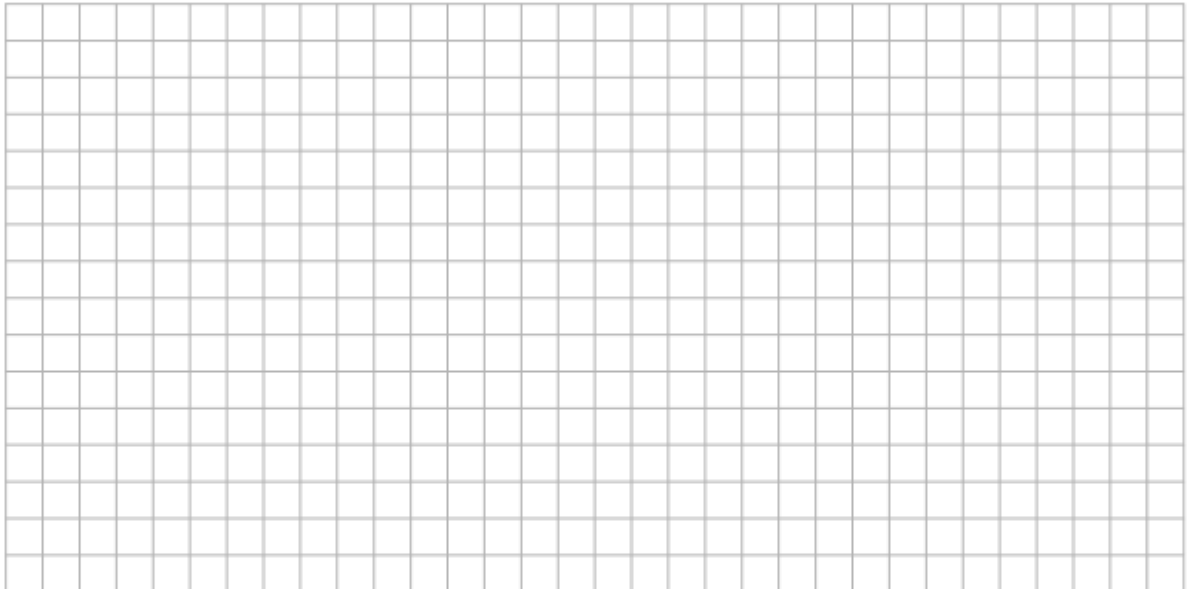


**Q9**

Consideration is being given to changing the number of points a team gets for a win and also the number of points a team gets for a draw in a soccer league. No points will be awarded for a loss. The table below shows the standing of two teams after six games under the proposed new system.

<b>Team</b>	<b>Played</b>	<b>Won</b>	<b>Drawn</b>	<b>Lost</b>	<b>Points (new system)</b>
<b>Team A</b>	6	2	2	2	12
<b>Team B</b>	6	1	5	0	10

- (a) Find the number of points which would be awarded for (i) a win and (ii) a draw under this proposed system.











**2013-Q4**

The minimum was per hour for different categories of workers is shown in the table. By law the Under 18 minimum wage is set at 70% of the minimum wage for an experienced adult worker.

Category	Min. Wage per hour
Experienced adult worker	€8.65
Aged under 18	€6.06
Over 18 in first year from date of first employment	€6.92
Over 18 in second year of first employment	€7.79
Source: <a href="http://www.citizensinformation.ie">www.citizensinformation.ie</a>	

(a) Verify that this is true for the rates shown in the table on the right.

(b) The government has decided that it is going to reduce all minimum wage rates by 6%. Calculate the new minimum wage for an experienced adult worker, correct to two decimal places, after this reduction.

























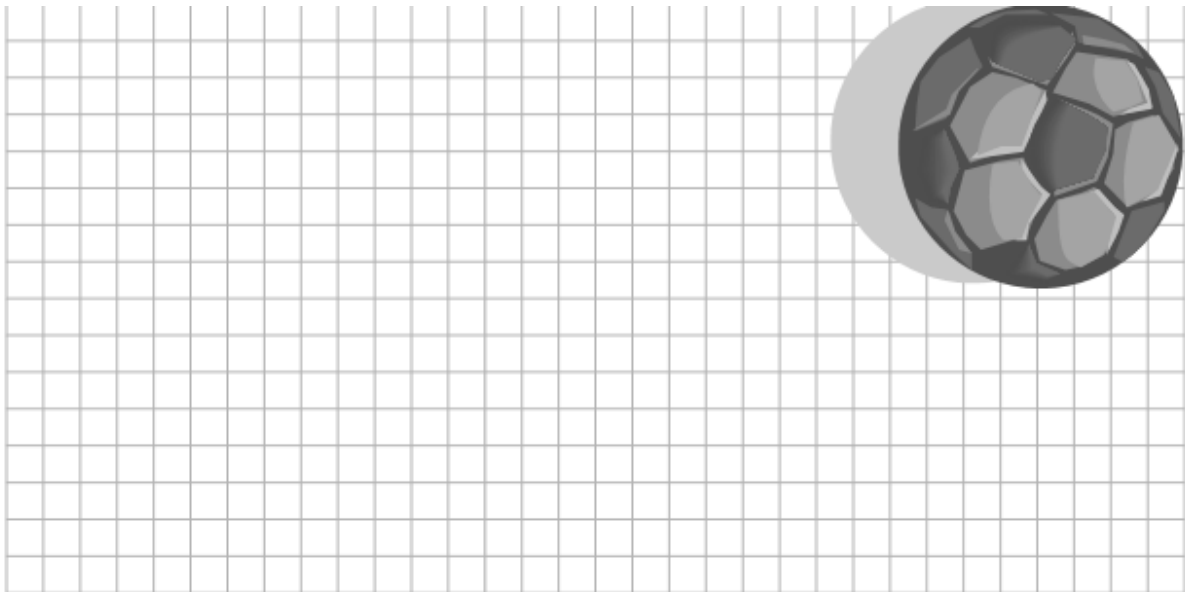


**2012-Q4**

A soccer team has three strikers John, Paul and Michael. The number of minutes each had played by the end of a particular season is shown on the table. The team divided a bonus of €150,000 between its strikers in proportion to the time each had played.

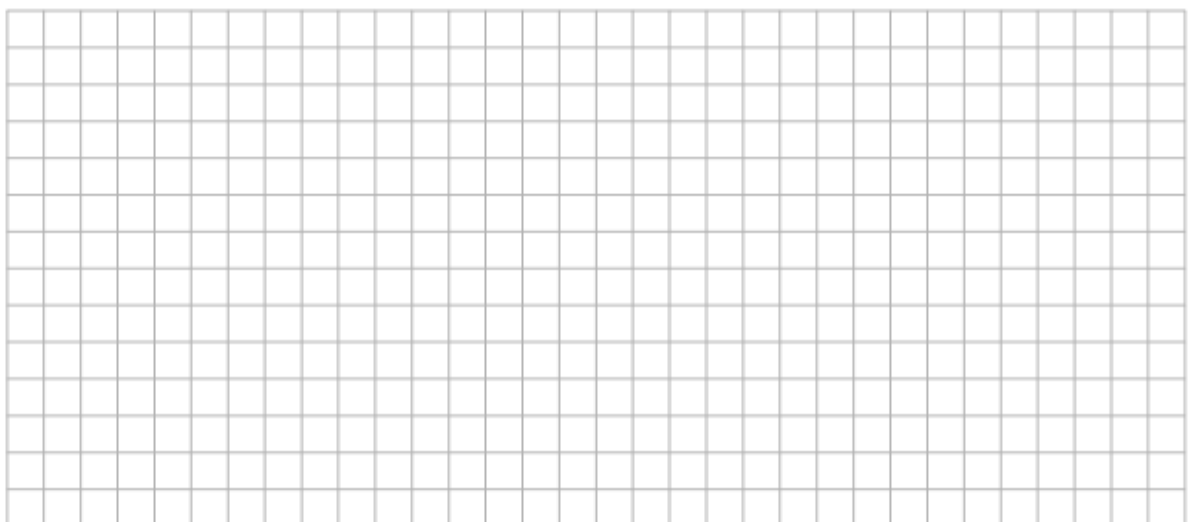
Name	Minutes Played
John	2250
Paul	2600
Michael	150

(a) Calculate the amount each player received.



(b) At the end of the following season a larger total bonus was paid. At that time, John said: “The bonus should be paid according to the number of goals scored by the striker. Paul scored 50% more goals than Michael. I scored as many as both of them together. I would get €140,000 if the team used this method.”

(i) Calculate the total bonus on offer that season.





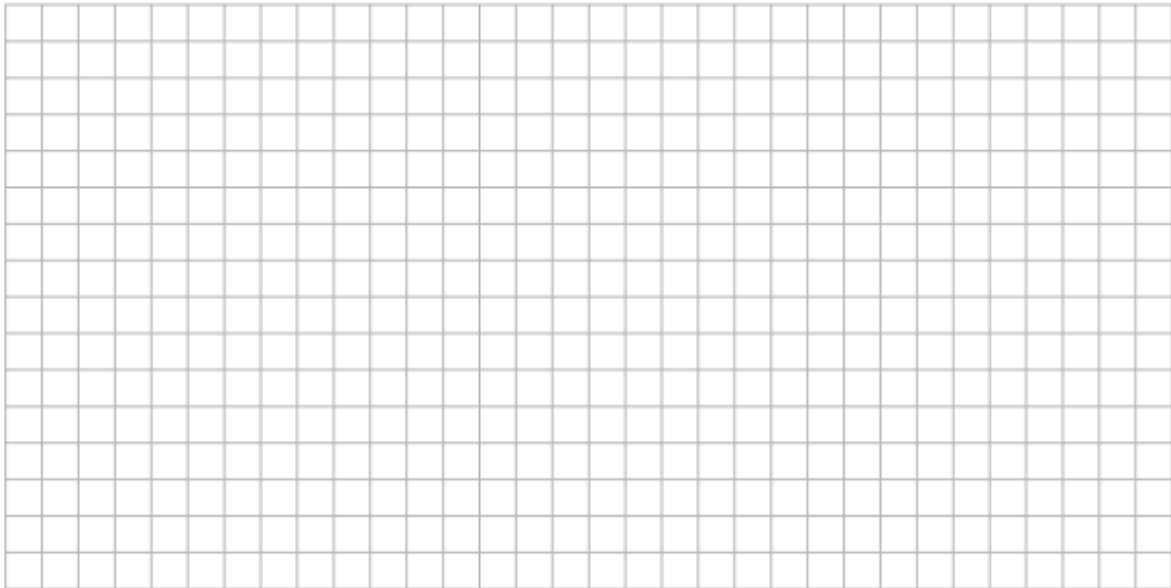






Eleanor receives a pay rise. As a result, her **net** income for the year is €34,780.

(b) Find Eleanor's new **gross** income for the year.

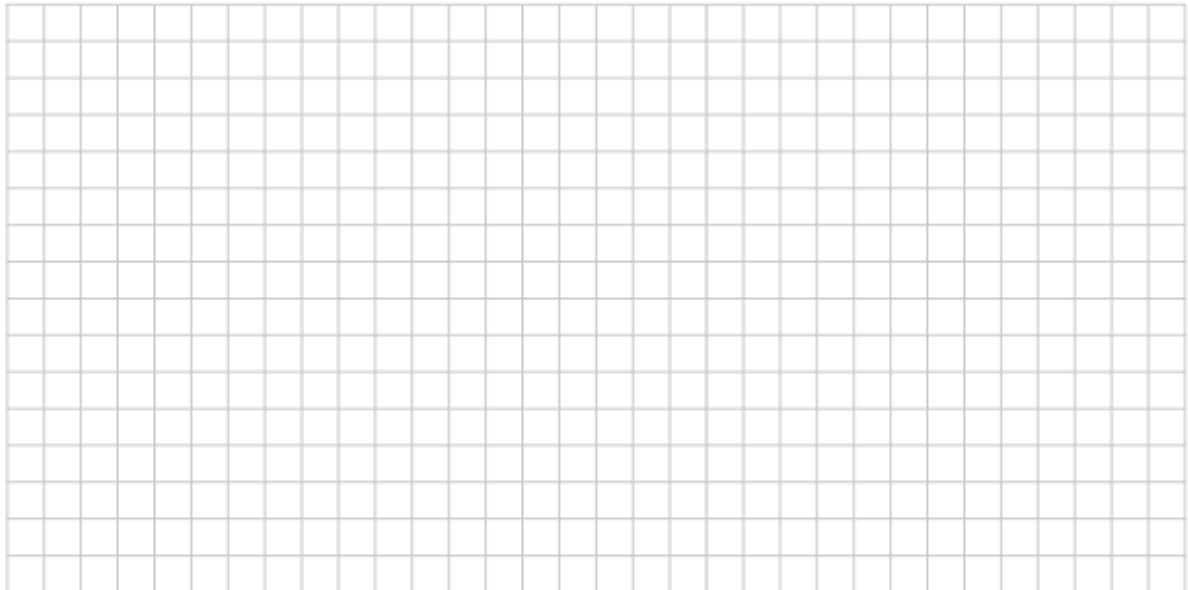


**2014-Q7**

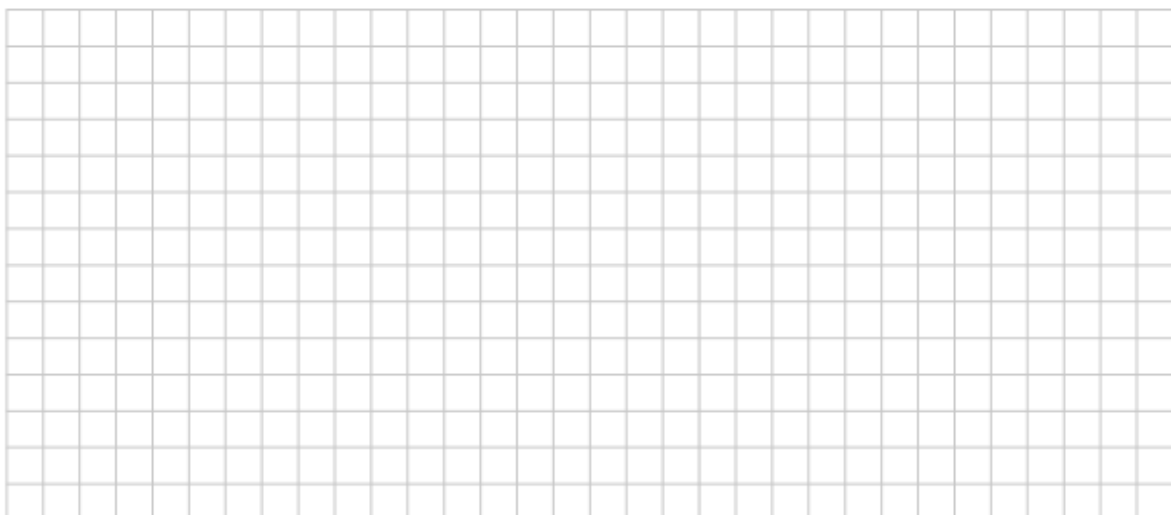
Last year Elena had a gross income of €36, 960. She had to pay Universal Social Charge (USC) and income tax on her gross income. The rates and bands of USC are as follows.

Income Band	Rate of USC
Up to €10,036	2%
Between €10,036 and €16,016	4%
Above €16,016	7%

- (i) Find the amount of USC that was deducted from Elena’s gross income last year.



- (ii) The standard rate of income tax was 20% and the higher rate was 41%. The standard rate cut-off point was €32,800. Elena paid a total of €4965.60 income tax last year. Find Elena’s tax credits for the year.





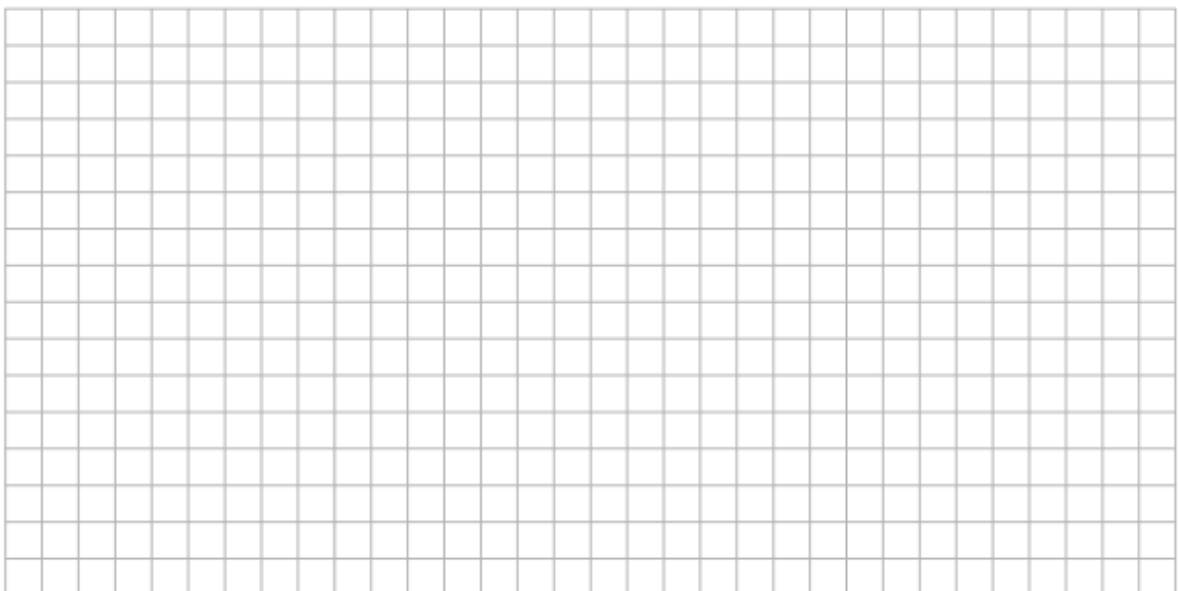
The table shows a selection of the tax credits available in Ireland in 2011

Individual's Tax Credits	Tax Credits 2011
Single Person	€16.50
Married or Civil Partner	€3,300
Widowed or Surviving Civil Partner	€2,190
Home Carer	€810
PAYE	€1,650
One Parent Family	€1,650

(b) Niamh is a single person who is a PAYE worker. Calculate her total tax credits for 2011.

A large grid of 20 columns and 12 rows, intended for the student to perform calculations for part (b).

(c) The standard rate of tax is 20% and the higher rate is 41%. The Standard Rate Cut-off Point for a single person is €32,800. Calculate Niamh's tax bill for 2011.

A large grid of 20 columns and 12 rows, intended for the student to perform calculations for part (c).







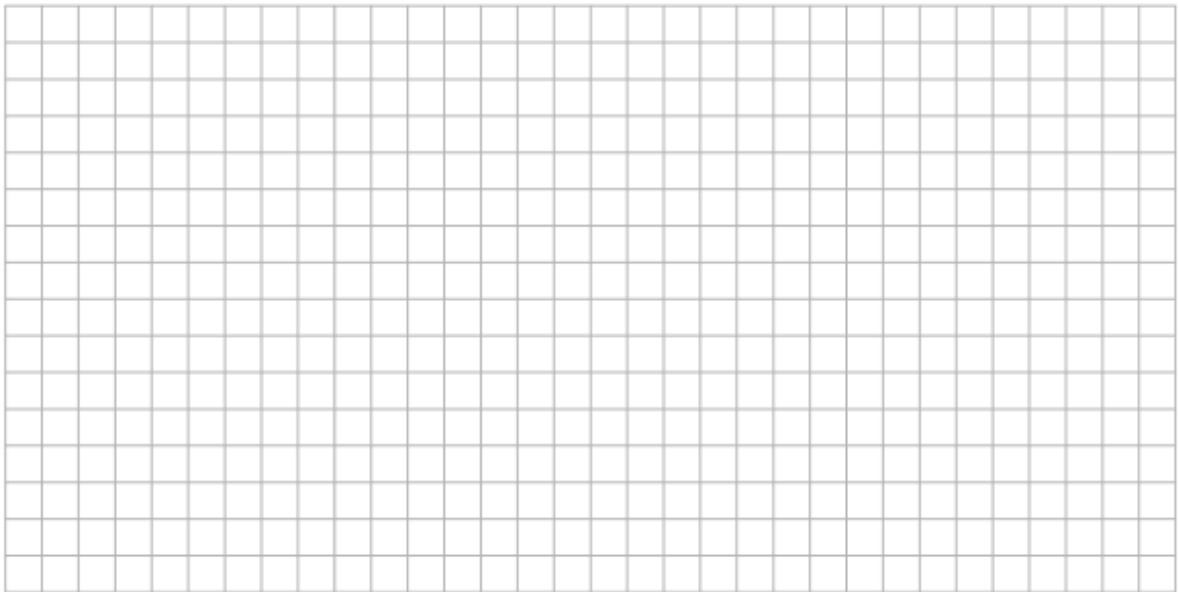


**2004-Q1**

John has a gross income per fortnight of €1750.

The standard rate of income tax is 20% and the higher rate is 42%. He has tax credits of €105 per fortnight and his standard rate cut-off point is €1295 per fortnight.

After tax is paid, what is John's net income per fortnight?



**2005-Q2**

- (i) The standard rate of income tax is 20% and the higher rate is 42%.  
Sheila has tax credits of €2700 for the year and a standard rate cut-off point of €22,000.  
Sheila has a gross income of €45,000 for the year.

Calculate the total tax payable by Sheila for the year.

















