A Level Economics

YEAR 12 INITIAL NUMERACY ASSESSMENT

Test 1

Name

tutor2u

A Level Economics
Initial Numeracy Assessment (Test 1)

ANSWER ALL THE QUESTIONS IN THIS PAPER

1   *Milano's Pizza* is a large-scale frozen pizza manufacturer based in Newcastle. They have 4 pizza machines. 1 machine can make 500 margarita pizzas an hour OR 400 ham and pineapple pizzas per hour. The manager currently has 2 machines making margarita pizzas and 2 machines making ham and pineapple pizzas.
    Assuming there are no defects or production problems, what is the maximum number of pizzas the firm makes in 12 hours.
    Show your workings here:

2   The regional demand for *Milano's* ham and pineapple pizzas increases after two prominent Newcastle footballers post a photo of themselves on Instagram eating them. To satisfy the extra demand, the manager at *Milano's* decides that she will use 3 machines to make ham and pineapple pizzas and 1 machine to make margarita pizzas.
    Calculate the new maximum number of pizzas made in 12 hours.
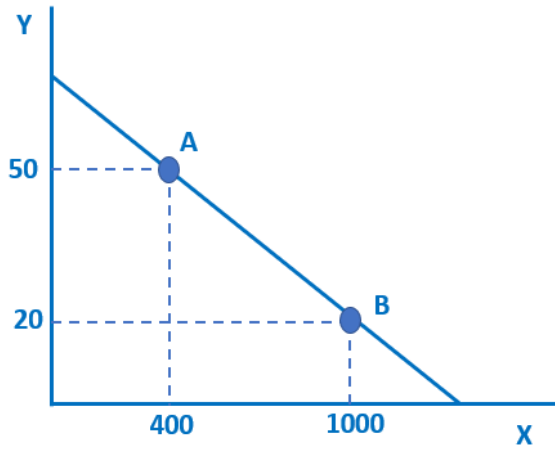   Show your workings here:

3   After a few weeks, the manager decides that the only way she can cope with the surging demand is to buy 2 more machines (6 in total). She uses 1 to make margarita pizzas (2 in total) and 1 to make ham and pineapple pizzas (4 in total).
    Calculate the percentage change in production in both types of pizza.
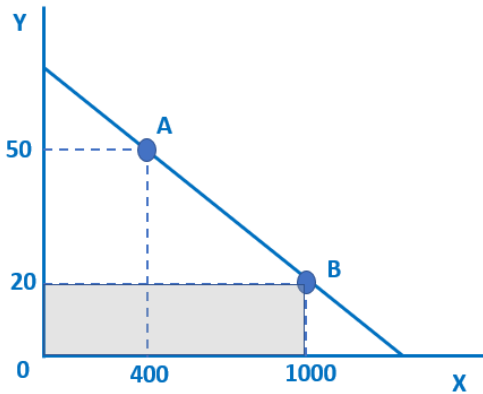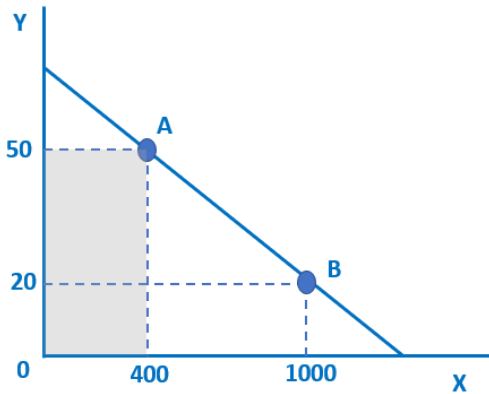   Show your workings here:

4   Geoff sells a house for £650,000 in Harrogate. The estate agent is paid 1.5% of the selling price for her services.
Calculate how much she is paid.
Show your workings here:

5   Geoff buys a new 1-bedroom apartment in London with the proceeds from his house sale in Harrogate. The apartment costs him £500,000 to buy. This time he has to pay Stamp Duty tax on his purchase. Stamp Duty tax at this price is 3%.
How much tax does he pay?
Show your workings here:

6   Over the next five years, London house prices go up by 45%. House prices in Harrogate decrease by 1.25%.
    i)   Calculate how much Geoff's London apartment is worth five years later.
    ii)   Calculate how much his house in Harrogate would have been worth if he hadn't sold it.
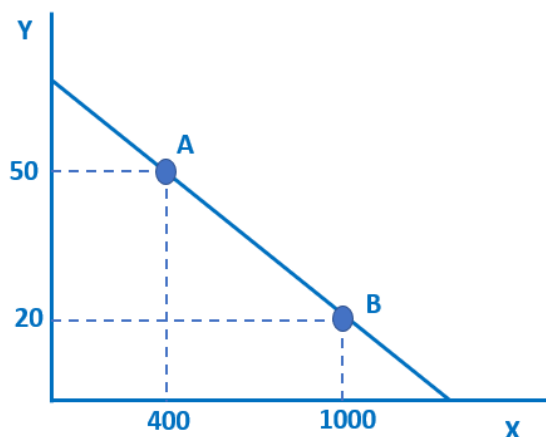Show your workings here:

7

A and B are two points on a straight line.
If we move from A to B, how many X units do we gain and how many Y units do we lose?
Show your workings here:

8

Calculate the area of each of the shaded rectangles.
Show your workings here:

9

The gradient does not change but the relationship between Y and X changes. At each amount of Y there are now 400 more units of X.
Adapt the diagram above to illustrate the change.

Show any workings you need to do here:

10   The owner of a small carpet cleaning business looks at the annual salaries of his five employees.

Employee 1 (duty manager)	£32,000
Employee 2	£14,000
Employee 3	£14,000
Employee 4	£16,000
Employee 5	£18,000

    i)   Calculate the total expenditure on labour costs
    ii)   Calculate mean average and median average salary for the five employees.
Show your workings here:

11   The boss hires a sixth employee to the business. The employee is highly experienced and very skilled. As a result, she commands a relatively high salary of £26,000.

      i)   Calculate the extra cost of the additional employee.
      ii)   Calculate the change in the mean average salary in the business.
      iii)   Calculate the new median average salary for the employees of the carpet cleaning business.

Show your workings here:

12   A British-made car costs £20,000. The current exchange rate is £1 (UK pound) to $1.30 (US dollars). 6 months ago, the exchange rate was £1 to $1.50.
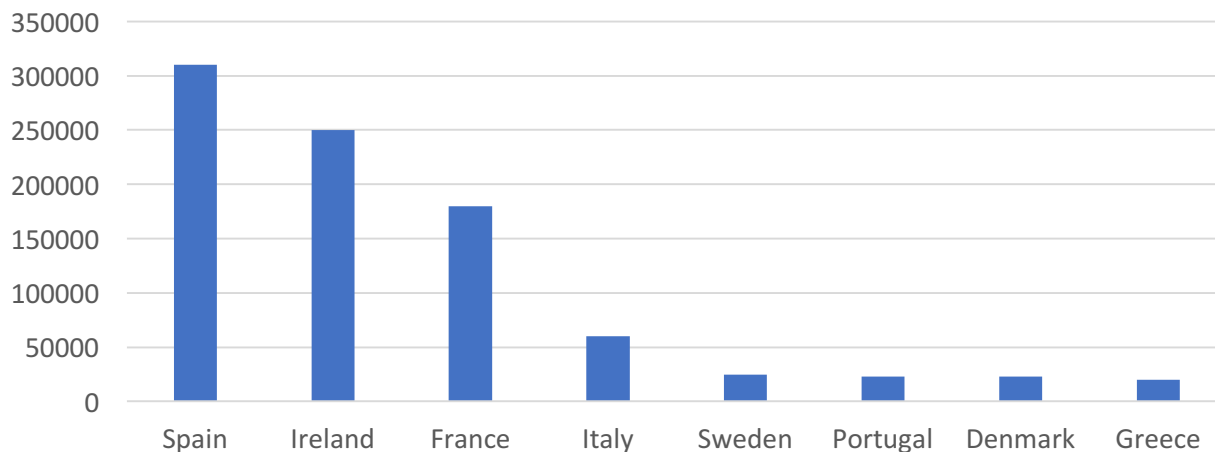Calculate how much the £20,000 car costs in US dollars i) now and ii) 6 months ago.
Show your workings here:

13   The exchange rate of UK pounds (£) to Euros (€) changes from £1 = €1.10 to £1 = €1.25.
      i)   Calculate the percentage increase of €1.1 to €1.25.
      ii)   Calculate the UK price (£) of a €500 washing machine made in Italy, after the exchange rate change.
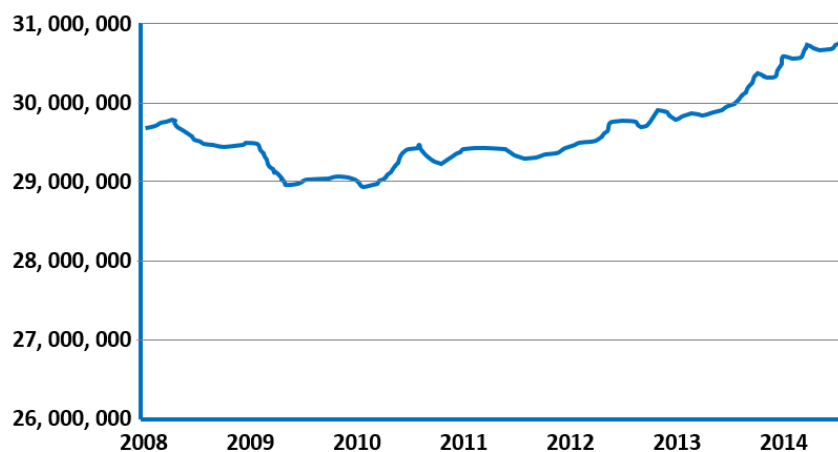
Show your workings here:

14

UK migrants living in other countries (2017)

i)   Of the selected countries above, what percentage of UK migrants live in Spain?

ii)   Compare the number of UK migrants living in Ireland compared to the number living in Portugal.

Show your workings here:

15   The graph shows the number of people in work in the UK over time.

i)   Calculate the percentage change from the lowest point to the highest point.
ii)   Assuming the UK population was constant at 63m throughout this period (it wasn't, but assume it was!), **calculate the number of people in work as a percentage of the population in both 2008 and 2014.**

Show your workings here: