

Subject 27

Please do not write on the exam paper.

Multiple choice questions

For each of the following questions, only one answer is correct. Find the right one and pay attention to explain your choice.

1. Over the year 2010, the price of crude increased by 15.14%. In order to come back to the 2009 price, the price should now go down by (to the nearest hundredth)...

- a) 15.14% b) 13.15% c) 84.86% d) none of these.

2. For a jeweler, the production costs are divided as shown:

- production of gems: 60%
- transportation to the workshop: 15%
- making of jewels and their sale: 25%

A 10% raise of the gems production costs would cause an overall rise of...

- a) 10% b) 6% c) 6.6% d) none of these.

3. A fair coin is tossed in the air four times. If the coin lands with the head up on the first three tosses, what is the probability that it will do so again on the fourth toss?

- a) $1/6$ b) $1/8$ c) $1/2$ d) none of these.

4. I have studied some probabilities linked to bad weather last winter. I have come to the conclusion that: the probability for a rainy day was 0.7. When it was raining I would feel cold with a probability of 0.8, whereas when the weather was dry I would feel cold only with a probability of 0.4. What is the probability that on a day last winter I would have felt neither wet nor cold after a short walk outside?

- a) 0.3 b) 0.6 c) 0.2 d) none of these.

5. On January 1st Mary has £120 on her bank account, and she gets £30 at the end of each month from her parents. She would like to go travelling in July and has read a leaflet from a travel agency:

A trip to Paris would cost £150 for the flight, and £40 per night,
a trip to Rome would cost £180 for the flight, and £30 per night,
a trip to Bilbao would cost £190 for the flight, and £30 per night.
She wants to spend four nights abroad. Which city can she choose?

- a) Paris? b) Rome? c) Bilbao? d) none of these?

Note: *crude: unrefined petroleum.*