

## L2 Probability practice questions

Name \_\_\_\_\_ Date \_\_\_\_\_

1. Craig is looking at the results of the learner surveys from 2015/16.

The table below shows how many learners from 4 different subject areas completed the survey.

Subject	Maths	English	ESOL	Health
Number of learners	378	296	458	1018

Craig needs to know the probability that a learner comes from an English class.

Work out the probability that a learner comes from an English class.

2. Yvonne has a box full of handmade cards.

The table below shows how many cards are for different events.

Event	Birthday	Christmas	Thank you	Happy anniversary	Get Well Soon	New Home
Number of cards	56	21	18	5	9	11

Yvonne picks a card out of the box at random.

What is the probability that Yvonne picks a Christmas card out of the box?

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3. Miriam is a courier. Every day she delivers parcels across four different counties. The table shows the numbers of parcels he delivered to each county last week. Work out the probability of a parcel having a delivery address in Oxfordshire.

County	OXON	BUCKS	BEDS	HERTS
Number of parcels	250	425	50	75

4. Ezra wants to go hiking on a day when it is unlikely to rain. He checks the weather forecast for the next few days.

Day	Tue	Wed	Thu	Fri	Sat
Probability of rain	50%	17%	75%	15%	60%

He decides to go hiking on Friday.

What is the probability that it will not rain on Friday?

5. Zofia keeps packets of crisps in a box in her kitchen. She has these packets in the box: 9 plain, 6 prawn, 1 cheese, 8 chicken. She takes one packet from the box without looking. What is the probability that she takes a packet of plain crisps?

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### Answers and curriculum mapping

Question	Answer
1	Total learners = $378 + 296 + 458 + 1018 = 2150$ Probability of English = $296 \div 2150 = \underline{0.1376744}$ OR $0.1376744 \times 100 = \underline{13.77\%}$ (rounded to 2dp) OR $296 / 2150 = 148 / 1075$
2	Total cards = $56 + 21 + 18 + 5 + 9 + 11 = 120$ Probability of picking a Christmas card = $21 \div 120 = \underline{0.175}$ OR $0.175 \times 100 = \underline{17.5\%}$ OR $21/120 = 7/40$
3	Total parcels = $250 + 425 + 50 + 75 = 800$ Probability of an address in Oxfordshire = $250 / 800 = 5/16$ OR $250 \div 800 = 0.3125$ OR $0.3125 \times 100 = 31.25\%$
4	Probability of rain on Friday is 15% So probability of it not raining is $100\% - 15\% = 85\%$ OR $85/100 = 0.85$ OR $85/100 = 17/20$
5	Total packets = $9 + 6 + 1 + 8 = 24$ So probability of picking out a plain packet = $9/24 = 3/8$ OR $3 \div 8 = 0.375$ OR $0.375 \times 100 = 37.5\%$

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### Answers and curriculum mapping

#### FUNCTIONAL MATHEMATICS Coverage and Range statements (indicative only)

Coverage and range statements provide an indication of the type of mathematical content candidates are expected to apply in functional contexts. Relevant content can also be drawn from equivalent National Curriculum levels and the Adult Numeracy standards. ✓ indicates the main coverage and range skills covered in this resource, although these may vary with the student group and how the resource is used by the teacher.

**Reference:** Ofqual (2009), *Functional Skills criteria for Mathematics: Entry 1, Entry 2, Entry 3, level 1 and level 2*. <https://www.gov.uk/government/publications/functional-skills-criteria-for-mathematics>

#### Level 1

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|--|--|
| a) Understand and use whole numbers and understand negative nos. in practical contexts ✓ | g) Solve problems requiring calculation, with common measures, including money, time, length, weight, capacity and temperature |
| b) Add, subtract, multiply and divide whole numbers using a range of strategies ✓        | h) Convert units of measure in the same system   |
| c) Understand and use equivalences between common fractions, decimals and percentages    | i) Work out areas and perimeters in practical situations   |
| d) Add and subtract decimals up to 2 decimal places                                      | j) Construct geometric diagrams, models and shapes   |
| e) Solve simple problems involving ratio, where one number is a multiple of the other    | k) Extract and interpret information from tables, diagrams, charts and graphs ✓  |
| f) Use simple formulae expressed in words for one- or two-step operations                | l) Collect and record discrete data and organise and represent information in different ways                                   |
|  | m) Find mean and range   |
|  | n) Use data to assess the likelihood of an outcome   |

#### Level 2

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|---|--|
| a) understand and use positive and negative numbers of any size in practical contexts                           | g) find area, perimeter and volume of common shapes  |
| b) carry out calculations with numbers of any size in practical contexts, to a given number of decimal places ✓ | h) use, convert and calculate using metric and, where appropriate, imperial measures   |
| c) understand, use and calculate ratio and proportion, including problems involving scale                       | i) collect and represent discrete and continuous data, using information and communication technology (ICT) where appropriate  |
| d) understand and use equivalences between fractions, decimals and percentages                                  | j) use and interpret statistical measures, tables and diagrams, for discrete and continuous data, using ICT where appropriate. |
| e) understand and use simple formulae and equations involving one or two operations                             | k) use statistical methods to investigate situations   |
| f) recognise and use 2D representations of 3D objects   | l) use probability to assess the likelihood of an outcome ✓  |

This resource also covers many **adult numeracy curriculum** elements. <http://www.excellencegateway.org.uk/content/etf1075>