



LITERACY AND NUMERACY
TEST FOR INITIAL TEACHER
EDUCATION STUDENTS

Numeracy

Practice Questions September 2023
Suggested Worked Solutions

Suggested Worked Solutions for the Practice Numeracy Test

These worked solutions are provided to assist candidates understand the underlying concepts in each question and to suggest appropriate methods. It is likely that many candidates will use different methods that are also correct.

Qn	Unit name	Suggested worked solution
1	AUD to USD	The correct answer is 1 because the table shows that 1 AUD was greater than 1 USD in 2012 only (1.04 at the year start and 1.04 at year end).
2	AUD to USD	The correct answer is C (2020) because the change between the year high and the year low can be calculated by subtracting the year low from the year high. In 2020 the difference was 0.2 which, in comparison with each of the other differences, was the greatest difference or change.
3	Natural Light	The correct answer for part A is 'No' because the area of the floor is 63 m^2 (9×7) and the area of the window is 6 m^2 (3×2). To calculate the window area as a percentage of the floor area, 6 is divided by 63 and the result is multiplied by 100, giving approximately 9.5% which is less than 10%. Alternatively, 10% of 63 could be calculated to be 6.3 m^2 (0.1×63) noting that 6 (the area of the window) is less than this. The correct answer for part B is 'Yes' because the area of the floor is 64 m^2 (8×8) and the total area of the windows is 4×2 , (2×1) resulting in 8 m^2 . To calculate the window area as a percentage of the floor area, 8 is divided by 64 and the result is multiplied by 100 resulting in 12.5% which is greater than 10%. Alternatively, 10% of 64 could be calculated to be 6.4 m^2 (0.1×64) noting that 8 (the total area of the windows) is more than this.
4	Planter box	The correct answer is 24 because the volume of the planter box is 1.2 m^3 ($2.4 \times 1 \times 0.5$). Each bag will fill 0.05 m^3 of the planter so 1.2 is divided by 0.05 giving the result of 24 bags.
5	STEM Confidence	The correct answer for part A is 'True' because the total of 'Somewhat confident' and 'Very confident' for Engineering was 37% ($27\% + 10\%$). Compared to the other totals (Science: $39\% + 23\% = 62\%$, Technology: $41\% + 23\% = 64\%$ and Maths: $23\% + 39\% = 62\%$), Engineering had the lowest total percentage for these categories. Alternatively, a visual comparison indicates that the combined 'Somewhat confident' and 'Very confident' for Engineering is less than the same categories for the other subjects. The correct answer for part B is 'False'. The number of students who reported they were 'Not confident at all' in Technology can be calculated by finding 4% of 2000. The solution to this is 80 which is less than 100. The correct answer to part C is 'Unable to determine' because the data does not show how individual students responded to the survey.

Qn	Unit name	Suggested worked solution
6	Student Data	The answer is 28. The percentage is calculated by adding the number of students who scored 15 or less ($2+4+8=14$) and then dividing this total by 50, the total number of students ($14/50=0.28$). To convert to a percentage, this is multiplied by 100 giving 28%.
7	Paying for Dinner	The correct answer is 11.20 because the dinner costs \$38.80 in total ($15.90 + 14.90 + 4 + 4$). This total is subtracted from \$50 to give a result of \$11.20 as change.
8	Field Trip	The correct answer is B (south-east) because of the non-routine orientation of North.
9	First Ribbons	The correct answer is C (10-metre roll) because 80 multiplied by 12 is 960 cm. 960 cm is equivalent to 9.6 m and so the teacher needs a length of ribbon that is longer than this. The 10-metre roll is the shortest roll given that is longer than 9.6 m.
10	Students per teacher	The correct answer is 808 because the table shows that in Government primary schools in 1980, the ratio was 20.2 students to each teacher. For 40 teachers, 20.2 is multiplied by 40 to give the number of students, 808.
11	Students per teacher	The correct answer is 90 because the table shows that in 2021 Catholic secondary schools had a ratio of 12.2 students to each teacher. For 1098 students, 1098 is divided by 12.2 to give the number of teachers, 90.
12	Tide Times	The correct answer is C (Thursday) because Thursday is the only day that satisfies all the criteria. With low tide at 11:41, the class can arrive after 9:30 and leave before 2:00 and still be at the beach for 2 hours before and after low tide.
13	Weekly Rent	The correct answer is A (\$440) because the median is the middle value when all are ordered from smallest to largest.
14	Event Attendance	The correct answer is B (1 700 000) because the graph shows that 3 100 000 15 – 24 year olds and 1 400 000 over 75 year olds attended at least one cultural event. The difference between these numbers is 1 700 000.
15	Event Attendance	The correct answer to part A is 'False' because a comparison of the columns for each indicates that the height of 15-24 age group column is not more than double the height of the 65-74 age group column. Furthermore, the axis indicates that approximately 2 200 000 65-74 year olds attended a cultural event compared with 3 100 000 15-24 year olds, which is not more than double. The correct answer to part B is 'True' because when adding the four age categories from 15 to 54, the total is over 12 million.
16	Backpack Mass	The correct answer is 12 because 15% of Tony's body mass can be calculated by multiplying 80 by 0.15. Alternatively, 10% of 80 could be calculated to be 8 and then half of 8 could be added to account for the other 5% ($8 + 4 = 12$).

Qn	Unit name	Suggested worked solution
17	Cake Time	The correct answer is C (4 hours and 25 minutes) because when the minutes are added together, the result is 265 (35 + 50 + 120 (for the 2 hours) + 15 + 45). The options are in hours and minutes so 265 can be divided by 60 to find the number of hours, 4. To find the remaining number of minutes, subtract 240 (4 x 60 minutes) from 265 resulting in 25 minutes. The correct answer is 4 hours and 25 minutes.
18	Study Load	The correct answer is B ($\frac{1}{8}$) because 0.125 is equivalent to 125 thousandths. This can be simplified to $\frac{1}{8}$.
19	Language at home	The correct answer is B (20%). As an estimation is required it is appropriate to round the numbers. The approximate difference between the data for 2021 and 2016 is 13 000. To find the percentage increase, divide 13 000 by 63 000 and multiply by 100. The closest answer is 20%.
20	Metropolitan Movement	The correct answer is 5 because the arrow from the middle column (second year) non-metropolitan section to the third column (third year) metropolitan section indicates 5%.

