Quiz team conundrum

Name _____ Date _____

Sophie is the captain of a quiz team. There are three other members of the team: Phil, Wendy and Robert. Here are the scores (out of 100) that the three have achieved this year:

Phil
71
72
77
69
70

Wendy
84
79
80
81
79

Robert
63
61
99
89
56

When you see ✎ you must show your working out. Do NOT use a calculator

1 Work out the mean scores for each of the above three team members.

✎

2 Work out the range of scores for each of the three team members.

✎

3 Draw a bar chart on squared paper to show the mean and range of scores of the three team members.

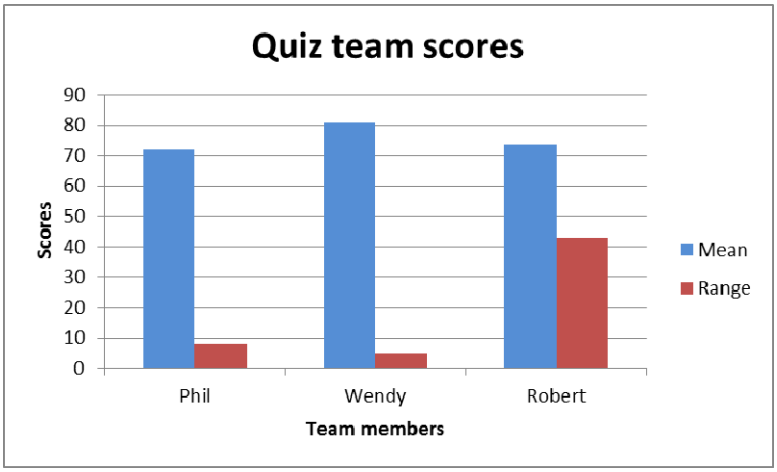
4 When taking part in the quizzes, Sophie picks herself and two others. This works well as she can alternate between the three.

Here is Sophie's conundrum: the quiz team are through to the national final and she can't decide which two team members to take with her. Help Sophie choose and give reasons for your decision

Quiz team conundrum

Answers and curriculum mapping

1. Mean scores: Phil 71.8 / Wendy 80.6 / Robert 73.6
2. Range of scores: Phil 8 / Wendy 5 / Robert 43
3. See completed bar chart.
4. Sophie should take Phil and Wendy to the final. Wendy is her first choice as she scores well (high mean) consistently (low range). Although Robert has a slightly better mean score than Phil, his range of scores is significantly higher than his team mates. He therefore cannot be relied upon to score well (or their scores are more consistent than his).



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	
a) Understand and use whole numbers and understand negative nos. in practical contexts b) Add, subtract, multiply and divide whole numbers using a range of strategies ✓ c) Understand and use equivalences between common fractions, decimals and percentages d) Add and subtract decimals up to 2 decimal places e) Solve simple problems involving ratio, where one number is a multiple of the other f) Use simple formulae expressed in words for one- or two-step operations	g) Solve problems requiring calculation, with common measures, including money, time, length, weight, capacity and temperature h) Convert units of measure in the same system i) Work out areas and perimeters in practical situations j) Construct geometric diagrams, models and shapes k) Extract and interpret information from tables, diagrams, charts and graphs ✓ 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	
a) understand and use positive and negative numbers of any size in practical contexts b) carry out calculations with numbers of any size in practical contexts, to a given number of decimal places c) understand, use and calculate ratio and proportion, including problems involving scale d) understand and use equivalences between fractions, decimals and percentages e) understand and use simple formulae and equations involving one or two operations f) recognise and use 2D representations of 3D objects	g) find area, perimeter and volume of common shapes h) use, convert and calculate using metric and, where appropriate, imperial measures i) collect and represent discrete and continuous data, using information and communication technology (ICT) where appropriate j) use and interpret statistical measures, tables and diagrams, for discrete and continuous data, using ICT where appropriate. ✓ k) use statistical methods to investigate situations ✓ 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