Percentages

- Calculators are allowed!
- It is even more important to show methods!

1) Find 23% of £450

2) What is 17.5% of £795?

3) If 10% of Fred's overdraft was £90, what is his whole overdraft?

4) Evadne scores 47 marks out of 75. Janine achieves 37 marks out of 60.

   a) Express both scores as percentages
   b) Who has done best?

5) Aaron has a cost of living pay rise of 2.9%. If he earned £22 500 before the rise, what will his new gross salary be once the rise has been applied?

6) A College has 350 students following a course. 12 of the students are found to have dyslexic tendencies to some degree. What percentage of the students is dyslexic?

7) A settee is marked as 30% off in a sale. If the *sale price* is £315, what did the settee cost *before* the reduction?

8) Jamilla is paid £8.50 per hour. A pay rise takes her hourly rate to £9.12. Express this pay rise as a percentage.

9) £1 buys €1.474. You decide to change £250 and visit Paris for the weekend.

   a) How many Euros do you start out with?

   You spend €100 on a bed and breakfast and €50 on dinner. Some shopping comes to another €120 and lunch is €35.50. You return home and change your remaining Euros back into pounds at the same rate.

   b) How much do you have left in Sterling?

10) £1 buys 40.88 Czech Crowns. František visits Birmingham for a few days and changes 8000 Crowns into Sterling. How much has he to spend?

Answers

- Methods are *important* although students won't use the 'all in one' calculations I show below. 26 Marks total.
- Rounding errors may accumulate if they round off intermediate answers - feedback point

1) $\dfrac{23}{100} \times 450 = £103.50$ M1A1

2) $\dfrac{17.5}{100} \times 795 = £139.13$ M1A1

3) $\dfrac{90}{10} \times 100 = £900$ M1A1

4) $\dfrac{47}{75} \times 100 = 62.7\%$ $\dfrac{37}{60} \times 100 = 61.7\%$, Evadne   M2A2

5) $22500 + \dfrac{2.9}{100} \times 22500 = £23152.50$ M2A1

6) $\dfrac{12}{350} \times 100 = 3.43\%$ M1A1

7) $\dfrac{315}{70} \times 100 = £450$ M1A1

8) $\left(\dfrac{9.12 - 8.50}{8.50}\right) \times 100 = 7.29\%$ M2A1

9)   a) $250 \times 1.474 = 368.50$ Euros   M1

      b) $100 + 50 + 120 + 35.50 = 305.50$ Euro spent   M1

          368.50 - 305.50 = 63.00 Euro brought back

          63.00 ÷ 1.474 = £42.74   M1A1

10)   8000 ÷ 40.88 = £195.69   M1A1