Writing one quantity as a percentage of another

How to do them!

(1) Non calculator – Write it as a fraction and then use equivalent fractions to make it 'out of 100'

Example: 17 out of 20. Write it as $\dfrac{17}{20} = \dfrac{85}{100} = 85\%$

(2) Calculator - Write it as a fraction & then multiply by 100.

Example: 23 of 37. Write it as $\dfrac{23}{37} \times 100 = 62.2\%$

Task 1 – Non calculator examples
(a) Write 14 as a percentage of 20.
(b) Write 7 out of 10 as a percentage.
(c) Write 19 out of 25 as a percentage.
(d) Write 6 out of 200 as a percentage.
(e) Write 9 as a percentage of 75.
(f) Write 18 out of 40 as a percentage.
(g) Write 49 out of 50 as a percentage.

Task 2 - Non calculator examples
(a) John scored 18 out of 20 in his test. Write his score as a percentage
(b) Only 3 of 25 workers turned up for work on Sunday. What percentage of workers turned up on Sunday?
(c) 12 of the 40 people who usually go to yoga went last week. What percentage is this?

Task 3 – Calculator examples. (Give all answers to 1 decimal place where appropriate).
(a) Write 23 out of 41 as a percentage
(b) Express 31 as a percentage of 73.
(c) Write 16 out of 137 as a percentage.
(d) Express 137 as a percentage of 108.
(e) Write 34 as a percentage of 912.
(f) Write 0.47 as a percentage of 0.13.

Task 4 – Calculator examples. (Give all answers to 1 decimal place where appropriate).
(a) Sue spends £32 of her weekly income on shopping. Given that she earns £412 a week, what percentage does she spend on shopping?
(b) Bert scored 124 out of 137 on a test. Given that he had to score above 91% to get into university, determine if he was successful or not. (You must show how you found out).
(c) Jim and Tim sat different exams that were equally hard. Jim scored 37 out of 92 and Tim scored 41 out of 101. Who was more successful?
(d) Peter needs to secure a score of at least 70% to get into the Police on an exam he is doing. He scores 17 out of 26 on the test. How far off passing was he?