Edexcel GCSE Mathematics Calculator 2022 Higher Paper 2 Revision Worksheet

1. Simplify $(x^3)^5$

2. Expand and simplify $4(x + 3) + 7(4 - 2x)$

3. Factorise fully $15x^3 + 3x^2y$

4. The length of a football pitch is 90 metres, correct to the nearest metre. Complete the error interval for the length of the football pitch.

   _____ m ≤ length < _____ m

5. (a) Festival A will be in a rectangular field with an area of 80,000 m^2. The greatest number of people allowed to attend Festival A is 425.

   Festival B will be in a rectangular field 700 m by 2000 m. The greatest number of people allowed to attend Festival B is 6750.

   The area per person allowed for Festival B is greater than the area per person allowed for Festival A. How much greater? **Give your answer correct to the nearest whole number.**

   (b) Callum says, "300 cm^2 is the same as 3 m^2 because there are 100 cm in 1 m so you divide by 100." Callum's method is wrong. **Explain why.**

6. The points L, M and N are such that LMN is a straight line.
   The coordinates of L are (−3, 1), the coordinates of M are (4, 9)
   Given that LM : MN = 2 : 3, find the coordinates of N.

7. A new phone cost £679. The value of the phone decreases at a rate of 4% per year. Work out the value of the phone at the end of 3 years.

8. In Spain, Sam pays 27 euros for 18 litres of petrol. In Wales, Leo pays £40.80 for 8 gallons of the same type of petrol. 1 euro = £0.

9. 4.5 litres = 1 gallon. Sam thinks that petrol is cheaper in Spain than in Wales. Is Sam correct? You must show how you get your answer.

10. Use your calculator to work out $\frac{\sqrt{1.57^2 + \tan 60°}}{7.2^3}$. Give your answer correct to 3 significant figures.

11. The box exerts a force of 180 newtons on the floor. The box exerts a pressure of 187.5 newtons/m^2 on the floor. The face in contact with the floor is a rectangle of length 1.2 metres and width x metres. **Work out the value of x. (pressure = force / area)**

12. The ratio of Marta's hourly pay to Khalid's hourly pay is 6 : 5. Both Marta and Khalid get an increase of £1.50 in their hourly pay. The ratio of Marta's hourly pay to Khalid's hourly pay after this increase is 13 : 11. **Work out the hourly pay before the increase for Marta and for Khalid.**

    Marta £_____ Khalid £_____