Edexcel GCSE Mathematics Calculator 2023 Higher Paper 3 Revision Worksheet

1. Simplify $(m^2)^3$

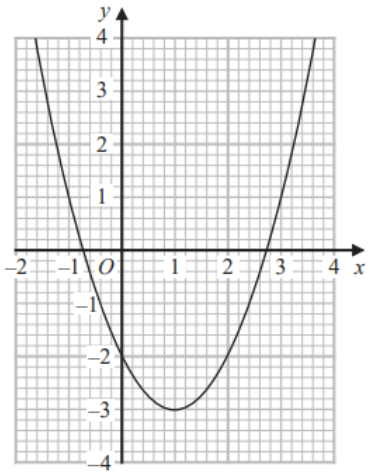
2. Jonny wants to know how much coffee he will need for 800 people at a meeting. Each person who drinks coffee will drink 2 cups of coffee. 10.6 g of coffee is needed for each cup. Jonny assumes 68% of the people will drink coffee. Using this assumption, work out the amount of coffee Jonny needs. Give your answer correct to the nearest gram.

3. It takes 14 hours for 5 identical pumps to fill a water tank. How many hours would it take 4 of these pumps to fill another water tank of the same size?

4. A = $2^2 \times 3^4 \times 7$ and B = $3^2 \times 7^2$. Find the highest common factor (HCF) of A and B.

5. Lava flows from a volcano at a constant rate of 11.9 m^3/s. How many days does it take for 67,205,600 m^3 of lava to flow from the volcano? Give your answer correct to the nearest day.

6. Here is the graph of $y = x^2 - 2x - 2$.



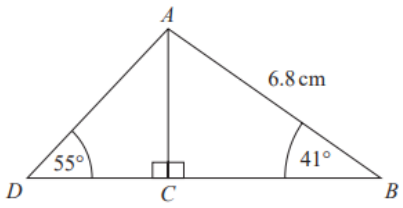
(a) Write down the coordinates of the turning point on the graph of $y = x^2 - 2x - 2$.

(b) Write down an estimate for one of the roots of $x^2 - 2x - 2 = 0$.

7. A solid cuboid is made of metal. The metal has a density of 9 g/cm^3. The volume of the cuboid is 72 cm^3. Work out the mass of the cuboid.

8. Some people were asked if they wanted a new television. 70% of the people said yes. 80% of the people who said yes wanted a television with a large screen. What percentage of the people asked said they wanted a television with a large screen?

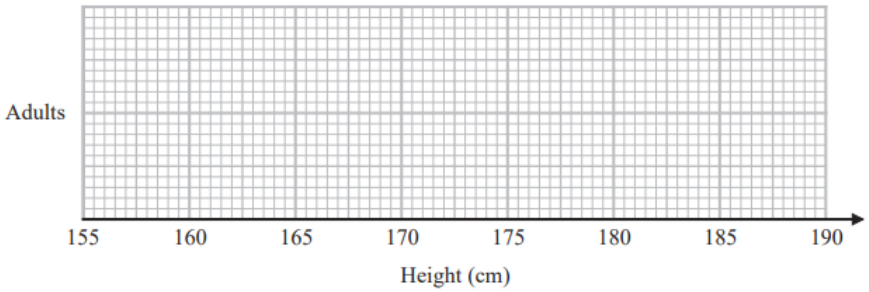
9. ABD is a triangle. C is a point on BD. Given that AB = 6.8 cm, angle BAD = 55°, and angle ADC = 41°, work out the length of DC. Give your answer correct to 1 decimal place.



10. The table shows some information about the heights of a group of adults:

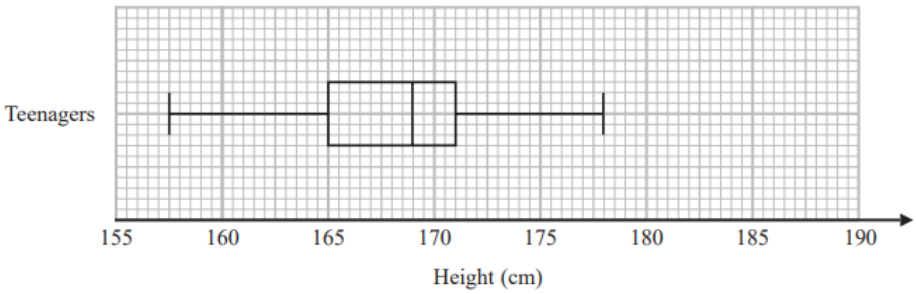
least height	169 cm
greatest height	186 cm
median	177 cm
lower quartile	174 cm
upper quartile	180 cm

(a) On the grid, draw a box plot for the information in the table.



(3)

The box plot below shows the distribution of the heights of a group of teenagers.



(b) Compare the distribution of the heights of the adults with the distribution of the heights of the teenagers.