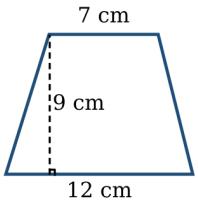
Day 110	A Tier 10-a-day
1 y is inversely proportional to x. When x = 2, y = 5. (a) Find a formula for y in terms of x. (b) Work out the value of y when x = 5.	
2 A solid cuboid measures 6 cm by 10 cm by 6 cm. It is made of a material with density 0.8 g/cm^3. Work out the mass of the cuboid in kilograms.	
3 The diagram shows a trapezium. Work out the area of the trapezium. The diagram is not drawn accurately. 	
4 A = 2 × 3 × 7 B = $2^3 \times 7^3$ Find the highest common factor (HCF) and the lowest common multiple (LCM) of A and B. Give your answers as products of prime factors.	
5 Triangle DEF: angle E = 90°, DF = 16 cm, DE = 14 cm. Triangle XYZ: angle Z = 90°, XY = 16 cm, XZ = 14 cm. Are the two triangles congruent? Give a reason for your answer.	

Day 110 **A Tier 10-a-day**

6 Here are four fractions: $\frac{5}{12}$ $\frac{4}{5}$ $\frac{13}{40}$ $\frac{9}{20}$

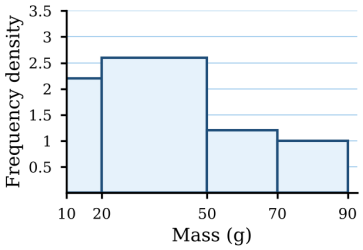
Which one of these fractions is equal to a recurring decimal?

7 Solve $\frac{2x + 2}{3} = \frac{3x + 8}{7}$

8 The histogram shows information about the mass of some items.

(a) Work out the number of items with a mass in the class 70 to 90 g.

(b) Work out an estimate for the number with a mass greater than 60 g.



9 Simplify fully

$$\frac{5x^2 - 16x + 12}{3x^2 - 7x + 2}$$

10 Two fair dice are thrown.

The two scores are added together.

Work out the probability that the sum is 8.