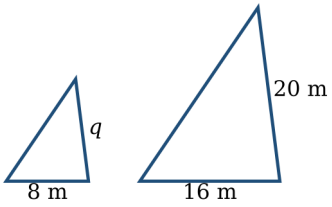
Day 134 **B Tier 10-a-day**

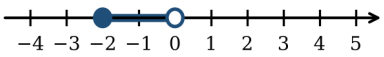
1 At night, the temperature in Moscow is −8°C.
(a) The temperature rises by 7°C. Work out the new temperature.
(b) The highest temperature one day was 13°C and the lowest was −5°C. Work out the difference.

2 Here are the heights of some plants.
17, 26, 27, 13, 23, 20, 20, 28, 16, 28
Work out the mean.

3 The two triangles are similar.
(a) Write down the scale factor of the enlargement from the smaller triangle to the larger triangle.
(b) Work out the value of q.
The diagram is not drawn accurately.



4 (a) Write down the inequality shown on the number line.
(b) Write down all the integers that satisfy the inequality.



5 A steel bar has a density of 7.8 g/cm^3 and a mass of 390 g.
Work out its volume.

Day 134	B Tier 10-a-day
6 A garden bed is made from a rectangle and a semicircle. (Calculator) The rectangle is 10 m wide and 3 m high. The diameter of the semicircle is 10 m. (a) Work out the area of the shape. (b) Work out the perimeter of the shape. Give each answer correct to 1 decimal place.	
7 Chloe bought a bike for £2000 and sold it for £3200. Work out the percentage profit.	
8 The circumference of a circle is 20π cm. Work out the radius of the circle.	
9 Here is a number machine. Input → × 5 → − 10 → Output (a) The input is 8. Work out the output. (b) The output is 25. Work out the input.	
10 A rectangle has length $(x + 6)$ cm and width $(x - 5)$ cm. The area of the rectangle is 42 cm^2. (a) Show that $x^2 + x - 72 = 0$ (b) Hence work out the length of the rectangle.	