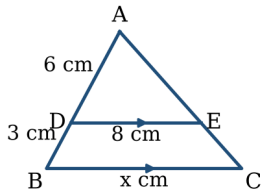
Day 33	A Tier 10-a-day
1 Expand and simplify $(3x - 5)(3x + 7)$	
2 Tara and Noah share some sweets in the ratio 3 : 1. Tara gets 45 sweets. How many sweets does Noah get?	
3 Jack has £150. Jack spends $\frac{2}{5}$ of the money on a phone case and $\frac{1}{5}$ of the money that is left on headphones. How much money does Jack have left?	
4 Two fair dice are thrown. The two scores are subtracted (smaller from larger). Work out the probability that the difference is greater than 3.	
5 Solve $x^2 + x = 30$	

Day 33 **A Tier 10-a-day**

6 In triangle ABC, DE is parallel to BC.
D is on AB and E is on AC.
Work out the value of x.
The diagram is not drawn accurately.



7 (a) Show that $0.\dot{2}\dot{3} = \frac{23}{99}$

(b) Hence write $4.\dot{2}\dot{3}$ as a mixed number in its simplest form.

8 $f(x) = \frac{x + 5}{6}$

(a) Find $f^{-1}(x)$

(b) Work out $f^{-1}(-5)$

9 Jug A contains 12 litres of a mixture of concentrate and water in the ratio 1 : 5.
Jug B contains 14 litres of a mixture of concentrate and water in the ratio 1 : 6.
The contents of both jugs are mixed together.
Work out the ratio of concentrate to water in the mixture. Give your answer in its simplest form.

10 The diagram shows a prism.
The cross-section of the prism is a right-angled triangle.
Work out the volume of the prism.
The diagram is not drawn accurately.

