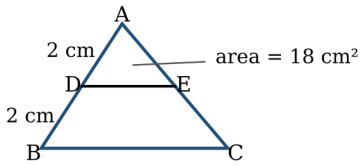
Day 286	IGCSE 10-a-day
1 The price of a phone is decreased by 5%. The new price is then decreased by 40%. Work out the overall percentage change in the price.	
2 In the diagram, DE is parallel to BC. AD = 2 cm, DB = 2 cm and the area of triangle ADE is 18 cm^2. Work out the area of the trapezium DBCE. The diagram is not drawn accurately. 	
3 $y = 2x^3 + 12x^2 + 18x$ At the point where x = 1, is the curve increasing or decreasing? You must show your working.	
4 A bag contains 5 blue, 2 green and 6 black cubes. Two cubes are taken at random without replacement. Work out the probability that one is blue and the other is green.	
5 Solve $2 \cos x° - 1 = -1$ for $0 \leq x \leq 360$	

Day 286	IGCSE 10-a-day
6 The ratio of men to women in a school is 4 : 1. 20% of the men and 55% of the women own a car. What percentage of all of these students own a car?	
7 $f(x) = 5x - 3$ and $g(x) = 3x^2 + 4x + 4$. (a) Find $f^{-1}g(x)$. (b) Work out $f^{-1}g(3)$.	
8 A curve has equation $y = 2x^3 + x + 6$. (a) Show that the curve has no stationary points. (b) Find the least value of the gradient of the curve.	
9 A shop mixes two types of coffee. Type A costs £14.00 per kg and type B costs £5.00 per kg. They are mixed in the ratio A : B = 3 : 2. The mixture is sold for £11.96 per kg. Work out the percentage profit.	
10 A company sells x thousand items each month. The price of each item is £12 − x. The monthly revenue is £R thousand. (a) Show that $R = 12x - x^2$. (b) Find the maximum monthly revenue, showing that it is a maximum.	