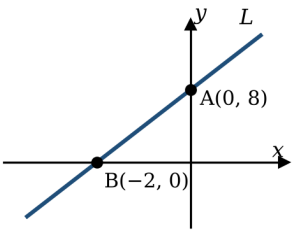
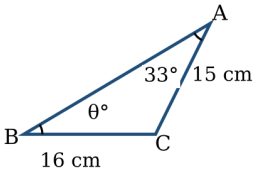
Day 329	S Tier 10-a-day
1 The ratio of blue to green sweets in a tin is 4 : 3. Then $\frac{2}{3}$ of the blue and $\frac{1}{5}$ of the green are taken out. Work out the ratio of blue to green now.	
2 The diagram shows the straight line L, which passes through the points A and B. The line M is perpendicular to L and passes through B. Find the equation of M in the form y = mx + c. 	
3 An alloy is made by mixing 60 cm^3 of tin with 40 cm^3 of iron. The density of tin is 7.3 g/cm^3. The density of iron is 7.9 g/cm^3. Work out the density of the alloy.	
4 Solve the simultaneous equations $-4x + 5y = 30$ $-2x + 5y = 20$	
5 Convert the recurring decimal $0.\dot{8}\dot{2}$ to a fraction. Give your fraction in its simplest form.	

Day 329	S Tier 10-a-day

6 The diagram shows triangle ABC. (Calculator)
Angle BAC = 33° and angle ABC is acute.
Work out the size of angle ABC, marked θ.
Give your answer correct to 1 decimal place.
The diagram is not drawn accurately.



7 A retailer buys a watch and adds a 50% mark-up to get the selling price.
In a sale the selling price is reduced by 15% to £395.25.
Work out how much the shop paid for a watch.

8 x is an obtuse angle and $\sin x = \frac{8}{9}$.

(a) Find the exact value of cos x.
(b) Find the exact value of tan x. Give each answer as a fraction or a surd. Do not use a calculator.

9 Dina and Oscar share some money in the ratio 9 : 7.
Dina gives Oscar £9.
The ratio of their money is now 9 : 8.
How much money do they have altogether?

10 The line $y = kx - 4$ is a tangent to the curve $y = x^2 + 4$.
Find the possible values of k.
Give any surds in their simplest form.