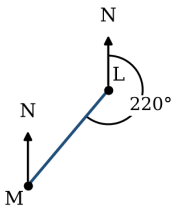
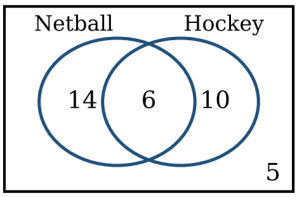
Day 67	A Tier 10-a-day
1 Expand and simplify $(4x + 4)^2$	
2 Work out $5\frac{1}{2} + 2\frac{5}{6}$ Give your answer as a mixed number in its simplest form.	
3 The bearing of M from L is 220°. Work out the bearing of L from M. The diagram is not drawn accurately. 	
4 Simplify fully (a) $\frac{15x^2y^5}{2x^4y}$ (b) $(3x^4y^4)^4$	
5 A flagpole stands on horizontal ground. (Calculator) From a point 20 m from the base of the flagpole, the angle of elevation of the top is 38°. Work out the height of the flagpole. Give your answer to 3 significant figures.	

Day 67 **A Tier 10-a-day**

6 The Venn diagram shows information about 35 people.
One person is chosen at random.
(a) The person is in set Netball. Find the probability that they are also in set Hockey.
(b) The person is not in set Hockey. Find the probability that they are in set Netball.



7 (a) Show that $0.\dot{9}\dot{0} = \frac{10}{11}$

(b) Hence write $3.\dot{9}\dot{0}$ as a mixed number in its simplest form.

8 y is directly proportional to the cube of x.
When x = 4, y = 512.
(a) Find a formula for y in terms of x.
(b) Work out the positive value of x when y = 216.

9 A bag contains red counters and blue counters in the ratio 1 : 4.
2 more red counters are added to the bag.
The ratio of red counters to blue counters is now 2 : 7.
How many counters were in the bag at the start?

10 A, B, C and D are points on a circle. AC and BD meet at E.
Angle BAC = 32° and angle ACD = 54°.
Work out the size of angle x (angle AEB).
Give reasons for your working.

