Probability Revision Questions

1) When Jane plays a hockey match, the probability that she scores a certain number of goals is as shown:

No of Goals	0	1	2	3 or more
Probability	0.3	0.4	0.2	0.1

(a) What is the probability that she scores at least one goal in her next match?
(b) What is the probability that she scores a total of two goals in her next two matches?

2) A tin contains 8 mince pies and 5 apple pies. Two pies are chosen at random.
(a) Draw a tree diagram to show the possibilities, leaving room to extend it to a third pie.
(b) Find the probability that one pie of each type is chosen.
A third pie is now chosen.
(c) Extend the tree diagram to show this.
(d) Find the probability that only one of the three pies is an apple pie.
(e) Find the probability that at least one of the three pies is an apple pie.

3) In a game at a fête, a player draws a bead from two bags each of which contains 4 numbered counters.
The red bag contains counters numbered 1, 2, 3 and 4. The green bag contains counters numbered 3, 4, 5, and 6.
The player first from a red bag, then from a green bag. She wins a prize if her numbers add to 6 or multiply to 6.
(a) Draw a possibility space diagram showing the possible outcomes.
(b) Find the probability of winning.
(c) Katie has drawn a 2 from the red bag and is about to draw from the green bag. What is her probability of winning now?
(d) Rosie has drawn a 4 from the red bag. What is her probability of winning now?

4) Alan sits 3 exams. The probability that he passes each is as follows: Maths 0.8, English 0.7, Science 0.6
Using a tree diagram if you wish,
(a) Find the probability that he only passes English.
(b) Find the probability that he only passes one of the three exams.

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