

- (a)** Find the probability that all three cars are the same colour.

[3]

[illegible]



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B: The red marble is to the left of both the green marble and the yellow marble.

[3]

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Handwriting practice lines consisting of 25 horizontal dotted lines.

- 7 A children's wildlife magazine is published every Monday. For the next 12 weeks it will include a model animal as a free gift. There are five different models: tiger, leopard, rhinoceros, elephant and buffalo, each with the same probability of being included in the magazine.

Sahim buys one copy of the magazine every Monday.

- (a) Find the probability that the first time that the free gift is an elephant is before the 6th Monday. [2]

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- (b) Find the probability that Sahim will get more than two leopards in the 12 magazines. [3]

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- (c) Find the probability that after 5 weeks Sahim has exactly one of each animal. [3]

- (a) Find the probability that all 3 eggs chosen contain the same colour sweet. [4]

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- (b) Find the probability that all 3 eggs chosen contain a yellow sweet, given that all three children have the same colour sweet. [2]

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- (c) Find the probability that at least one of Hanna's three children chooses an egg that contains an orange sweet. [3]

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- 6** A factory produces chocolates in three flavours: lemon, orange and strawberry in the ratio 3 : 5 : 7 respectively. Nell checks the chocolates on the production line by choosing chocolates randomly one at a time.

- (a) Find the probability that the first chocolate with lemon flavour that Nell chooses is the 7th chocolate that she checks. [1]

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- (b) Find the probability that the first chocolate with lemon flavour that Nell chooses is after she has checked at least 6 chocolates. [2]

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‘Surprise’ boxes of chocolates each contain 15 chocolates: 3 are lemon, 5 are orange and 7 are strawberry.

Petra has a box of Surprise chocolates. She chooses 3 chocolates at random from the box. She eats each chocolate before choosing the next one.

- (c) Find the probability that none of Petra’s 3 chocolates has orange flavour. [2]

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- (d) Find the probability that each of Petra's 3 chocolates has a different flavour. [3]

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- (e) Find the probability that at least 2 of Petra's 3 chocolates have strawberry flavour given that none of them has orange flavour. [4]

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