**Probability - Tree Diagrams (2 independent events)**

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| **1)** The tree diagram below shows the outcomes of tossing a fair coin twice.Find the probability of getting two heads.      http://www.mathster.com/course/simgs/74889051627_1.png      | [1]   |
| **2)** A coin is tossed and a dice is thrown.Find the probability of getting heads and a 1.      http://www.mathster.com/course/simgs/74889051627_2.png      | [1]   |
| **3)** The tree diagram below shows the outcomes of choosing two marbles out of a jar that contains 3 green marbles and 6 orange marbles.Note that the first marble is returned to the jar before the second is picked.Find the probability that both marbles are orange.      http://www.mathster.com/course/simgs/74889051627_3.png      | [1]   |
| **4)** The tree diagram below shows the outcomes of picking two marbles out of a jar that contains 4 red marbles, 3 yellow marbles and 2 orange marbles.Note that the first marble is returned to the jar before the second is picked.Find the probability that both marbles are orange.      http://www.mathster.com/course/simgs/74889051627_4.png      | [1]   |
| **5)** A fair coin is tossed twice.Draw a tree diagram and use it to calculate the probability of two tails.      | [1]   |
| **6)** A coin is tossed and a dice is thrown.Draw a tree diagram and use it to calculate the probability of heads and a 4.      | [1]   |
| **7)** One marble is picked out of a jar that contains 3 orange marbles and 2 yellow marbles and returned to the jar.A second marble is then chosen from the same jar.Draw a tree diagram and use it to calculate the probability that one is yellow and the other is orange.      | [1]   |
| **8)** Two marbles are picked out of a jar that contains 3 purple marbles, 2 yellow marbles and 6 blue marbles.Note that the first marble is returned to the jar before the second is picked.Draw a tree diagram and use it to calculate the probability that both are purple.      | [1]   |

**Solutions for the assessment Probability - Tree Diagrams (2 independent events)**

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| **1)** P(two heads) = 1/4 | **2)** P(heads and a 1) = 1/12 |
| **3)** P(both marbles are orange) = 4/9 | **4)** P(both marbles are orange) = 4/81 |
| **5)** P(two tails) = 1/4http://www.mathster.com/course/simgs/74889051627_5.png |
| **6)** P(heads and a 4) = 1/12http://www.mathster.com/course/simgs/74889051627_6.png |
| **7)** P(one is yellow and the other is orange) = 12/25http://www.mathster.com/course/simgs/74889051627_7.png |
| **8)** P(both are purple) = 9/121http://www.mathster.com/course/simgs/74889051627_8.png |