**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 a tail and a head.      http://www.mathster.com/course/simgs/63141749368_1.png      | [1]   |
| **2)** A coin is tossed and a dice is thrown.Find the probability of getting heads and a 3.      http://www.mathster.com/course/simgs/63141749368_2.png      | [1]   |
| **3)** The tree diagram below shows the outcomes of choosing two marbles out of a jar that contains 8 purple marbles and 6 blue marbles.Note that the first marble is returned to the jar before the second is picked.Find the probability that both marbles are purple.      http://www.mathster.com/course/simgs/63141749368_3.png      | [1]   |
| **4)** The tree diagram below shows the outcomes of picking two marbles out of a pot that contains 4 yellow marbles, 2 red marbles and 6 green marbles.Note that the first marble is returned to the pot before the second is picked.Find the probability that both marbles are red.      http://www.mathster.com/course/simgs/63141749368_4.png      | [1]   |
| **5)** A fair coin is tossed twice.Draw a tree diagram and use it to calculate the probability of a head and a tail.      | [1]   |
| **6)** A coin is tossed and a dice is thrown.Draw a tree diagram and use it to calculate the probability of tails and not a 2.      | [1]   |
| **7)** One marble is picked out of a jar that contains 8 blue marbles and 4 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 blue.      | [1]   |
| **8)** Two marbles are picked out of a bag that contains 3 green marbles, 2 orange marbles and 4 red marbles.Note that the first marble is returned to the bag before the second is picked.Draw a tree diagram and use it to calculate the probability that both are red.      | [1]   |

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

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| **1)** P(a tail and a head) = 1/2 | **2)** P(heads and a 3) = 1/12 |
| **3)** P(both marbles are purple) = 16/49 | **4)** P(both marbles are red) = 1/36 |
| **5)** P(a head and a tail) = 1/2http://www.mathster.com/course/simgs/63141749368_5.png |
| **6)** P(tails and not a 2) = 5/12http://www.mathster.com/course/simgs/63141749368_6.png |
| **7)** P(one is yellow and the other is blue) = 4/9http://www.mathster.com/course/simgs/63141749368_7.png |
| **8)** P(both are red) = 16/81http://www.mathster.com/course/simgs/63141749368_8.png |