Probability Word Problems

Compound Events

Name: _____ **Date:** _____

(1) An animal cage is holding 10 black cats and 6 white cats. All of them want to get out of the cage. The cage door is opened slightly and two cats escape. What is the probability that a black cat is followed by a white cat?

(2) Your drawer contains 7 red socks and 9 blue socks. It's too dark to see which are which, but you need a pair of socks so you grab two. What is the probability that both socks are red?

(3) The game show contestant spins a spinner with the letters A through G on it, then either an easy or hard question is picked randomly for her. What is the probability that the spinner willstop on either the letter B or G and she is given an easy question?

(4) The names of 7 boys and 10 girls from your class are put into a hat. What is the probability that the first two names chosen will be a girl followed by a boy?

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A N S W E R K E Y

(1) An animal cage is holding 10 black cats and 6 white cats. All of them want to get out of the cage. The cage door is opened slightly and two cats escape. What is the probability that a black cat is followed by a white cat?

$\frac{10}{16} \times \frac{6}{15} = \frac{60}{240} = \frac{1}{4}$ or 25%

(2) Your drawer contains 7 red socks and 9 blue socks. It's too dark to see which are which, but you need a pair of socks so you grab two. What is the probability that both socks are red?

$\frac{7}{16} \times \frac{6}{15} = \frac{42}{240} = \frac{7}{40}$ or 17.5%

(3) The game show contestant spins a spinner with the letters A through G on it, then either an easy or hard question is picked randomly for her. What is the probability that the spinner willstop on either the letter B or G and she is given an easy question?

$\frac{2}{7} \times \frac{1}{2} = \frac{2}{14} = \frac{1}{7}$ or 14.29%

(4) The names of 7 boys and 10 girls from your class are put into a hat. What is the probability that the first two names chosen will be a girl followed by a boy?

$\frac{10}{17} \times \frac{7}{16} = \frac{70}{272} = \frac{35}{136}$ or 25.74%