

Name: _____

1. A number from 1 to 30 (inclusive) is picked at random. Find the following probabilities as fractions in their simplest form.

(a) Pr(the number is a multiple of 3)

(b) Pr(the number is a multiple of 5)

(c) Pr(the number is a multiple of 3 and 5)

(d) Pr(the number is a multiple of 3 or 5)

2. 60 people were asked if they had been to Asia and/or Europe. 22 had been to Asia, 14 had been to Europe and 6 of these had been to both Asia and Europe.

Based on these figures, if a person is chosen at random, what is the probability that they have been to Asia or Europe?

3. $\Pr(X) = 0.64$, $\Pr(Y) = 0.38$, $\Pr(X \cap Y) = 0.24$

Use this information to find $\Pr(X \cup Y)$.

Write answer as a decimal.

4. Jim and Mark play cricket in the same team. Over a period of time it was calculated that the probability of Jim scoring more than 50 runs in a game was 0.45 and the probability of Mark scoring more than 50 runs in a game was 0.32. The probability of them both scoring more than 50 runs in a game was 0.24. What is the probability that Jim or Mark will score more than 50 runs in a game?

5. A lawn mower repairer found that an average of six out of ten mowers brought in to be repaired needed work on the engine and eight out of ten needed work on the blades. One in two needed work on the engine and blades. Based on these figures, what is the probability that a mower being repaired needed work on the engine or blades?

Give answer as a fraction in its simplest form.

6. Josephine had three pairs of black socks, four pairs of white socks, two pairs of green socks and one pair of purple socks. If she randomly chose a pair of socks from her sock draw, what is the probability it was white or green?

Give answer as a fraction in its simplest form.

7. In the town of Greendale, 85% of the houses are brick and 74% of the houses are insulated. 68% of the houses are both brick and insulated. If a house is chosen at random, what is the probability (as a percentage) that it is brick or insulated?