Probability of Simple Event

Total points = 33

1. a. P(two heads) $= \boxed{\frac{3}{8}}$ ✓

   b. P(at least two heads) = P(2 heads) + P(3 heads) ✓ $= \frac{3}{8} + \frac{1}{8}$ ✓ $= \frac{4}{8}$ ✓ $= \boxed{\frac{1}{2}}$ ✓

   c. P(no tail) $= \boxed{\frac{7}{8}}$ ✓

2. a. P(sum of five) $= \frac{4}{36}$ ✓ $= \boxed{\frac{1}{9}}$ ✓

   b. P(sum is prime) = P(sum is 2) + P(sum is 3) + P(sum is 5) + P(sum is 7) + P(sum is 11) ✓ $= \frac{1}{36} + \frac{2}{36} + \frac{4}{36} + \frac{6}{36} + \frac{2}{36}$ ✓ $= \frac{15}{36}$ ✓ $= \boxed{\frac{5}{12}}$ ✓

   c. P(sum greater than 9) = P(sum is 10) + P(sum is 11) + P(sum is 12) ✓ $= \frac{3}{36} + \frac{2}{36} + \frac{1}{36}$ ✓ $= \frac{6}{36}$ ✓ $= \boxed{\frac{1}{6}}$ ✓

   d. P(a double) $= \frac{6}{36}$ ✓ $= \boxed{\frac{1}{6}}$ ✓ P(not a double) = 1 − P(a double) ✓ $= 1 - \frac{1}{6}$ ✓ $= \boxed{\frac{5}{6}}$ ✓

3. a. P(red number card) $= \frac{18}{52}$ ✓ $= \boxed{\frac{9}{26}}$ ✓

   b. P(heart) $= \frac{13}{52}$ ✓ $= \frac{1}{13}$ ✓ P(not a heart) $= 1 - P(heart)$ ✓ $= 1 - \frac{1}{13}$ ✓ $= \boxed{\frac{12}{13}}$ ✓

   c. P(black ace) $= \frac{2}{52}$ ✓ $= \boxed{\frac{1}{26}}$ ✓

4. a. P(M) $= \boxed{\frac{2}{11}}$ ✓

   b. P(first half of alphabet) $= \boxed{\frac{8}{11}}$ ✓

   c. P(C) $= \boxed{\frac{1}{11}}$ ✓

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